

1-12-2026

Development of an Educational Intervention to Enhance Nurses' Knowledge and Intent to Implement Evidence-Based Diabetes Self-Management in Clinical Practice

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Anne Marie Sieyou Ngouane

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Walden University
2025

Executive Summary: Staff Education Project
Development of an Educational Intervention to Enhance Nurses' Knowledge and Intent
to Implement Evidence-Based Diabetes Self-Management in Clinical Practice

by

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Executive Summary Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

November 2025

Summary

This Doctor of Nursing Practice (DNP) project was purposed with closing critical gaps in staff knowledge and adherence to diabetes self-management protocols in a busy primary care clinic. Rising readmission rates and uneven use of American Diabetes Association (ADA) standards signaled an urgent need for a structured approach to staff education. To address this, a one-hour interactive training session was created that blended teaching, evidence-based handouts, and a practical diabetes care checklist. Staff learning was measured through pretest and posttest, confidence and adherence used a 5-point Likert-scale survey, and 21 day readmission data tracked patient outcomes.

The project question asked if (a) staff knowledge gain regarding patient diabetes management would be a minimum of 20%, (b) intent to adhere to ADA diabetes standards would improve by at least 1 Likert point, and (c) post discharge readmissions would be reduced by 20%. Participants included seven staff members at an outpatient clinic and data from 15 diabetic patients. Percentages and normalized gain were used to analyze data. Staff knowledge gain was 23.8%, intent to follow protocols improved by 1.02 Likert points, and patient readmission outcomes decreased to zero percent within 21 days. These results demonstrated that a short, focused educational intervention could make a meaningful difference. Implications include inclusion of diabetic education for staff onboarding, quarterly staff updates, and ongoing professional development. Organizational adoption of this model can standardize care, reduce disparities, and support patients across diverse healthcare settings in managing diabetes chronically with confidence and consistency.

Background

This DNP project centered identifying and addressing a significant practice gap in diabetes self-management education within a primary care setting. There was availability of evidence-based standards from the American Diabetes Association (ADA, 2024). However, inconsistent staff knowledge, limited patient education, and poor adherence to diabetes care protocols have led to variable outcomes and avoidable readmissions. These elements highlight the need for a structured, standardized educational approach for healthcare staff to improve both clinical consistency and patient outcomes. The practice change was therefore guided by the following project question which asked if (a) staff knowledge gain regarding patient diabetes management would be a minimum of 20%, (b) intent to adhere to ADA diabetes standards would improve by at least 1 Likert point, and (c) post discharge readmissions would be reduced by 20%. The project purpose was to develop, implement, and evaluate an evidence-based educational intervention aimed at enhancing nurses' knowledge and adherence intent toward diabetes self-management protocols to ultimately improve patient outcomes and reduce preventable hospital readmissions.

Diabetes is one of the most challenging chronic illnesses of our time, touching patients, families, and health systems worldwide. The International Diabetes Federation (IDF, 2023) estimates that over 537 million adults are currently living with diabetes, and this number is expected to rise to 643 million by 2030. Type 2 diabetes accounts for most of these cases. In comparison to type 1, type 2 diabetes is caused by and worsens due to lifestyle factors such as poor diet, sedentary lifestyle, and obesity (Sami et al, 2014).

The cost of diabetes care is overwhelming, considering the different resources. Globally, more than \$966 billion was spent on diabetes management in 2021, a 316% increase over the last 15 years (IDF, 2023). In the United States, diabetes is the eighth leading cause of death and a significant source of disability and lost productivity (American Diabetes Association [ADA], 2024). The Centers for Disease Control and Prevention (CDC, 2023) reported that the economic burden of diagnosed diabetes reached \$327 billion in 2017 and \$237billions were use in direct medical costs, and \$90 billion from reduced productivity. Hospital readmissions due to prolonged infections, acute kidney injuries or other complications and emergency visits remain major drivers of these costs, underscoring the need for practical, evidence-based interventions to prevent tertiary care (Kukde et al., 2024).

Primary care providers are vital professionals for the interprofessional team of diabetic patients, yet their clinical practice often falls short of evidence-based standards (Sørensen et al., 2020). Examples are competing priorities in one shift, poor communication amongst staff, and lack of staff education, which contribute to inconsistent implementation of diabetes self-management education (DSME), which is a fundamental aspect of quality diabetes care (ADA, 2024).

At the project site, chart audits revealed that patients were often not receiving DSME, A1C monitoring was inconsistent, and staff sometimes failed to follow hypoglycemia and hyperglycemia protocols. These findings mirrored national trends showing variation in outpatient guideline adherence (Powers et al., 2021). Such gaps in practice translate into avoidable complications, poor glycemic control, and higher readmission rates. These recommendations, backed by research. Thus, making it clear

that structured education and standardized care processes are essential to improving patient outcomes. For instance, structured DSME interventions have been shown to significantly reduce HbA_{1c} levels by 0.5% to 2.6% in adults with type 2 diabetes, as evidenced by a recent systematic review in low and middle-income countries (Lamprey et al., 2022). Similarly, a multi-country review in Sub-Saharan Africa demonstrated that structured self-management education improved glycemic control and patient empowerment (Mogueo et al., 2021). The 2022 National Standards for Diabetes Self-Management Education and Support further affirm that consistent, individualized, and culturally sensitive DSMES remains central to high-quality diabetes care (Davis et al., 2022). Taken together, the rigorous national evidence and the local practice data created a compelling case for staff education, showing not only what should be done, but also why it is urgently needed within the clinical setting. The global, national, and regional data validated the need for this intervention and strongly supported its implementation to improve outcomes.

Staff Education Project Development

The staff education project was developed to close a critical gap in diabetes self-management education and protocol adherence among primary care staff. An organizational strengths, weaknesses, opportunities and threats (SWOT) analysis demonstrated strengths in patient-centered primary care delivery and strong community relationships. These outcomes were supported by efficient electronic health record (EHR) tracking and partnerships with nearby universities and health organizations. Similarly, staff were recognized for their commitment to continuity of care and patient trust. However, several weaknesses were identified. For example, inconsistent staff training in

diabetes management, time constraints, and outdated clinical protocols. Additionally, various aspects further constrained training opportunities. For example, limited funding for continuing education and lack of access to modern diabetes teaching tools such as continuous glucose monitors. An organizational readiness assessment indicated moderate readiness for change; leadership support and strategic alignment were strong, yet gaps remained in protected education time, standardized protocols, and data tracking infrastructure. A stakeholder analysis identified clear champions including nursing leadership, the clinic manager, and the diabetes educator; potential resisters included frontline staff concerned about workload and scheduling; and essential partners included Information Technology for EHR prompts and order sets, finance for budgeting, and patient advisors to ensure culturally responsive materials.

The project occurred in a primary care clinic serving a diverse patient population, many of whom were managing type 2 diabetes. A structured, one-hour educational session was designed and implemented using a PowerPoint presentation (see Appendix A). This educational approach was used to standardize staff teaching to promote the project outcomes.

The study participants included two registered nurses (RNs), four patient care assistants (PCAs), and one nurse practitioner (NP). These healthcare professionals voluntarily participated as part of a quality improvement initiative. The RNs and PCAs provided direct patient education and discharge counseling. The NP oversaw diabetes care plans and reinforced adherence to evidence-based guidelines. Participation was encouraged by clinic leadership and supported through scheduled professional development time. Anonymity was ensured through participant development of their own

six-digit number for test identification and comparison of pretest and posttest results (see Appendices B and C). The intervention consisted of a PowerPoint presentation, ADA aligned educational handouts, and a structured Diabetes Care Protocol Checklist for standardizing patient education. Prior to implementation, the project team conducted a SWOT analysis. This strategy helped evaluate organizational capacity and readiness for change.

Staff knowledge was measured using a 15-item multiple choice test administered before and after the intervention. Additionally, adherence intent was assessed using a 5point Likert-scale survey before and after the session. Patient outcome data were gathered by reviewing clinic readmission records for diabetic patients. Specifically, 15 patient charts were examined for 21day readmission rates pre and post intervention. This strategy allowed for direct comparison of outcomes before and after staff training. Descriptive statistics and normalized gain were used to calculate improvement in staff knowledge and adherence intent. On the other hand, pre and post intervention readmission rates provided evidence of patient level impact.

Further, the evaluation process triangulated data across three domains. These domains were staff knowledge gain, adherence intent, and short-term patient outcomes. Therefore, the three domains helped to determine the intervention's overall effectiveness.

Ethical considerations were strictly observed throughout the project. Participation was voluntary and participants were free to not be included or withdraw from the project. All organizational patient data was anonymized and handled in compliance with the Health Insurance Portability and Accountability Act (HIPAA, 1996). This approach helped to ensure confidentiality and data integrity.

Descriptive statistics and normalized gain scores were computed to evaluate the data to validate outcomes. The Hake (1998) normalized gain formula which consisted of the posttest score minus the pretest score divided by the highest possible score, which was 100 for this project, minus the pretest score multiplied times 100 was used for gain calculation. Data was analyzed using Microsoft Excel.

Results

The educational intervention included seven interdisciplinary staff participants (two RNs, four PCAs, and one NP). Staff knowledge mean score for the pretest was 45.7 (min = 33.3; max = 60) and mean score for the posttest was 69.5 (min = 53.3; max = 80) (see Appendix D). The knowledge gain was 23.8. This achieved the stated objective of a 20% gain. The mean intention to implement evidence-based diabetes patient self-management in the clinical setting was 3.47 (min = 2.88; max = 3.86) on the pretest, and 4.49 (min = 4.29; max = 4.71) on the posttest. This represented a 1.02-point improvement in adherence intent on the Likert scale. The objective of a one-point gain on the Likert scale was achieved. Organizational data was retrieved for 15 patients 21 days following project implementation to measure diabetes-related readmissions. The pre-project readmission rate was 13.3% which was below the objective. Data identified no readmissions after project implementation (N = 0; 0%). This produced a substantial difference for the organization.

The project achieved a 23.8% increase in staff knowledge and a 1.02-point improvement in adherence intent on the 5-point Likert scale. Moreover, the project achieved a 0% readmission rate within 21 days post intervention. These results indicated that the structured educational session achieved its intended outcomes. Similarly, the

results indicated a structured educational session effectively enhanced staff competence titrating insulin and patient education validation.

The staff education program produced a clear improvement in knowledge. The intervention produced immediate operational and quality impacts. Clinically, staff reported greater confidence and consistency in delivering diabetes self-management education, which supported more standardized discharge teaching and use of the Diabetes Care Protocol Checklist. Operationally, the clinic realized a measurable short-term reduction in readmissions during the 21-day follow up window, a result that, if sustained, translates to reduced resource use and potential cost savings. These organizational changes improved staff morale around diabetes care and provided leadership with evidence to support institutionalizing the training in onboarding and quarterly education sessions.

Several limitations should be considered when interpreting these findings. The small sample size restricted the ability to generalize project results beyond the current setting, as the participants may not fully represent the broader nursing population or diverse clinical environments. Additionally, the brief 21-day follow-up period measured only the immediate effects of the intervention, providing limited insight into the long-term retention of knowledge or sustained changes in clinical practice. Future projects with larger, more diverse participants and extended follow-up intervals are needed to evaluate the durability and broader applicability of project outcomes.

Beyond the local site, this project may illustrate a low-cost, scalable educational model, one-hour training with a checklist and handouts, that primary care clinics can adopt rapidly to standardize DSME and improve short term outcomes. By aligning

practice with ADA standards and demonstrating measurable gains in staff competence and patient indicators, the project offers replicable evidence that targeted staff education can close common guideline to practice gaps. The model also advances health equity and quality goals. By ensuring consistent, standardized DSME, it increases the likelihood that patients from diverse backgrounds receive equitable, evidence-based education and discharge support, which can reduce avoidable complications and readmissions at scale.

Conclusions

This project made a difference in the clinic by strengthening staff knowledge and intent, which led to an improvement in the type of care patients with diabetes received. The training encouraged staff to see themselves as active patient education partners, helping close essential gaps in consistency and adherence to best practices. Patients benefited not only through improved outcomes but also by receiving clearer, more reliable guidance at every visit. Looking ahead, the clinic can continue building on these successes by weaving diabetes-focused education into staff onboarding and offering quarterly updates to keep knowledge fresh. Simple tools like adherence checklists and outcome tracking built into quality improvement efforts can make it easier for staff to stay on track and for leaders to see progress over time. The larger message of this project is that standardized, evidence-based education, delivered with consistency can be a powerful equalizer in healthcare.

Building health understanding, meeting patients where they are in their daily lives, and making inclusivity part of nursing practice are keyways to close gaps in diabetes care. When nurses use these approaches, they not only improve health outcomes but also help ensure fair and equal care for people from all backgrounds. More than data

points, this reflects a genuine dedication to fairness, trust, and helping patients feel in control of their health. With the right support, patients develop the understanding, abilities, and confidence to manage their diabetes successfully, creating sustainable improvements in their overall health.

Embed DSME into onboarding and annual competencies, appoint a diabetes champion, run quarterly refreshers, and standardize care with EHR order sets, just in time algorithms, and audit feedback; expand via train-the-trainer and brief skills labs, using low literacy/teach-back materials and DSMES referrals (continuous glucose monitoring teaching and pharmacist co-management as feasible). Monitor A1C completion/control, hypoglycemia events, emergency department visits, and 21 day readmissions at 3 and 6 months with run charts/Plan-Do-Study-Act and a simple cost-benefit review. These steps hard wire evidence-based practice and teamwork while culturally tailored education, interpreter access, equity stratified metrics, and social needs screening advance positive social change and diversity, equity and inclusion.

References

- American Association of Colleges of Nursing (AACN). (2021). *The essentials: Core competencies for professional nursing education*. AACN.
<https://www.aacnnursing.org/essentials>
- American Diabetes Association. (2024). Standards of care in diabetes—2024. *Diabetes Care*, 47(Supplement_1), S1–S166. <https://doi.org/10.2337/dc24SINT>
- Carmienke, S., Fink, A., Baumert, J., Heidemann, C., Du, Y., Frese, T., & Heise, M. (2022). Participation in structured diabetes self-management education programs and its associations with self-management behavior – a nationwide population-based study. *Patient Education and Counseling*, 105(4), 843–850.
<https://doi.org/10.1016/j.pec.2021.07.017>
- Dang, D., & Dearholt, S. L. (2018). *Johns Hopkins nursing evidence-based practice: Model and guidelines* (3rd ed.). Sigma Theta Tau International.
- Davis, J., Fischl, A. H., Beck, J., Browning, L., Carter, A., Condon, J. E., Dennison, M., Francis, T., Hughes, P. J., Jaime, S., Lau, K. H. K., McArthur, T., McAvoy, K., Magee, M., Newby, O., Ponder, S. W., Quraishi, U., Rawlings, K., Socke, J., Stancil, M., ... Villalobos, S. (2022). 2022 National standards for diabetes self-management education and support. *The Science of Diabetes Self-Management and Care*, 48(1), 44-59.
<https://journals.sagepub.com/doi/10.1177/26350106211072203>
- Georgieva, N., Tenev, V., Kamusheva, M., & Petrova, G. (2023). Diabetes Mellitus—Digital solutions to improve medication adherence: Scoping review. *Diabetology*, 4(4), 465–480. <https://doi.org/10.3390/diabetology4040040>

- Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66(1), 64-74.
- Kukde, R. D., Chakraborty, A., & Shah, J. (2024). A systematic review of recent studies on hospital readmissions of patients with diabetes. *Cureus*, 16(8), e67513. <https://doi.org/10.7759/cureus.67513>
- Lamprey, R., Robben, M. P., Amoakoh-Coleman, M., Boateng, D., Grobbee, D. E., Davies, M. J., & Klipstein-Grobusch, K. (2022). Structured diabetes self-management education and glycaemic control in low-and middle-income countries: a systematic review. *Diabetic Medicine*, 39(8), e14812. <https://doi.org/10.1111/dme.14812>
- Mogueo, A., Oga-Omenka, C., Hatem, M., & Kuate Defo, B. (2021). Effectiveness of interventions based on patient empowerment in the control of type 2 diabetes in sub-Saharan Africa: A review of randomized controlled trials. *Endocrinology, Diabetes & Metabolism*, 4(1), e00174. <https://doi.org/10.1002/edm2.174>
- Powers, M. A., Bardsley, J. K., Cypress, M., Funnell, M. M., Harms, D., Hess-Fischl, A., Hooks, B., Isaacs, D., Mandel, E. D., Maryniuk, M. D., Norton, A., Rinker, J., Siminerio, L. M., & Uelman, S. (2021). Diabetes self-management education and support in adults with type 2 diabetes. *Journal of the Academy of Nutrition and Dietetics*, 121(4), 773–788.e9. <https://doi.org/10.1016/j.jand.2020.04.020>
- Sami, W., Ansari, T., Butt, N. S., & Hamid, M. R. A. (2017). Effect of diet on type 2 diabetes mellitus: A review. *International Journal of Health Sciences*, 11(2), 65–71.

Sørensen, M., Groven, K. S., Gjelsvik, B., Almendingen, K., & Garnweidner-Holme, L. (2020). The roles of healthcare professionals in diabetes care: a qualitative study in Norwegian general practice. *Scandinavian Journal of Primary Health Care*, 38(1), 12–23. <https://doi.org/10.1080/02813432.2020.1714145>

Appendix A: Educational PowerPoint



Objectives

Upon completion of this presentation, participants will be able to:

- ❖ Apply evidence-based pharmacologic and non-pharmacologic management strategies.
- ❖ Educate patients and families on self-management, including immediate glucose monitoring using a glucometer and lifestyle modification.
- ❖ Identify and implement preventive measures to reduce risk of acute and chronic complications.
- ❖ Recognize risk factors and early signs to effective care and intervention.

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Diabetes Impact and Importance Validation

- ❖ **Global Prevalence:** Over 536 million adults live with diabetes, with numbers rising each year.
- ❖ **U.S. Statistics:** Approximately 37 million Americans—nearly 1 in 10—have diabetes, and many remain undiagnosed.
- ❖ **Economic Burden:** Direct and indirect costs exceed \$300 billion annually in the U.S. alone.
- ❖ **Nursing Role:** Early identification, education, and coordinated care can significantly reduce morbidity and mortality.

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Overview of Diabetes

- ❖ **Type 1 Diabetes:** Autoimmune destruction of insulin-producing cells.
- ❖ **Type 2 Diabetes:** Insulin resistance and progressive insulin deficiency.
- ❖ **Key Risk Factors:** Obesity, family history, inactivity, poor diet.

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Classification and Diagnostic Criteria

- ❖ Fasting Plasma Glucose (FPG): ≥ 126 mg/dL on two separate occasions indicates diabetes.
- ❖ Oral Glucose Tolerance Test (OGTT): 2-hour value ≥ 200 mg/dL confirms diagnosis.
- ❖ Hemoglobin A_{1c}: ≥ 6.5 % reflects chronic hyperglycemia over 2–3 months.
- ❖ Pre-diabetes: FPG 100–125 mg/dL, OGTT 140–199 mg/dL, or A_{1c} 5.7–6.4 %—opportunity for early intervention.




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Role of Insulin

- ❖ Insulin helps regulate blood glucose levels.
- ❖ Promotes glucose uptake into cells.
- ❖ Prevents hyperglycemia by lowering blood sugar.



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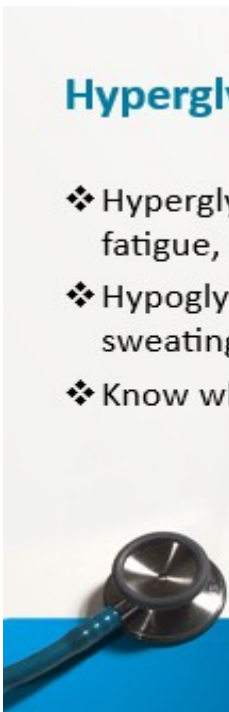
A1C Testing

- ❖ Measures average blood glucose over 2–3 months.
- ❖ Recommended frequency for well-controlled patients: twice a year.
- ❖ Normal range: Below 5.7%; Diabetes diagnosis: 6.5% or higher.

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Hyperglycemia vs. Hypoglycemia

- ❖ Hyperglycemia symptoms: Frequent urination, fatigue, blurred vision.
- ❖ Hypoglycemia symptoms: Shakiness, confusion, sweating, dizziness.
- ❖ Know what you should do...



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Nursing Actions in Response to Hypoglycemia and Hyperglycemia

In Case of Hypoglycemia (<70 mg/dL):

- ❖ Assess: Check blood glucose level immediately.
- ❖ If conscious: Give 15–20g fast-acting carbs (e.g., juice, glucose tabs).
- ❖ Recheck glucose after 15 minutes; repeat if still low.
- ❖ If unconscious: Administer glucagon IM or IV dextrose per protocol.
- ❖ Monitor: Airway, vitals, and glucose until stable.
- ❖ Document: Event, treatment, and response.
- ❖ Educate: Causes and prevention strategies.

In Case of Hyperglycemia (>180 mg/dL):


- ❖ Assess: Blood glucose and for symptoms (polyuria, thirst, fatigue).
- ❖ Check: Ketones if glucose >240 mg/dL or in Type 1 DM.
- ❖ Administer: Insulin per sliding scale/correction dose.
- ❖ Hydrate: Encourage oral fluids unless contraindicated.
- ❖ Monitor: Glucose every 2–4 hours and watch for complications.
- ❖ Notify provider if persistently high or ketones present.
- ❖ Educate: Medication adherence, sick day management, diet.



Nutrition and Blood Sugar

- ❖ Carbohydrates have the greatest impact on blood glucose.
- ❖ Teach patients to:
 - ❖ balance meals with protein, fiber, and healthy fats, and
 - ❖ monitor intake and adjust their diet based on glucose readings.






Medication Management

- ❖ Insulin: Essential for Type 1; may be needed for Type 2.
- ❖ Oral medications: Metformin, GLP1, SGLT2 inhibitors, etc.
- ❖ Encourage patients to follow prescribed regimen and monitor response.

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Pharmacologic Therapies Overview

- ❖ Biguanides (Metformin): First-line agent; decreases hepatic glucose production and improves insulin sensitivity.
- ❖ Sulfonylureas & Meglitinides: Stimulate pancreatic insulin secretion; risk of hypoglycemia must be monitored.
- ❖ GLP-1 Receptor Agonists & DPP-4 Inhibitors: Enhance incretin effect; promote weight loss and have cardiovascular benefits.
- ❖ SGLT2 Inhibitors: Promote urinary glucose excretion; shown to reduce heart failure hospitalizations and progression of renal disease.



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Insulin Therapy Fundamentals

- ❖ Insulin Types: Rapid-acting (e.g., lispro), short-acting (regular), intermediate (NPH), long-acting (glargine, degludec).
- ❖ Regimens: Basal-bolus mimics physiologic insulin patterns; premixed offers simplified schedules for some patients.
- ❖ Dosing & Titration: Start with weight-based calculations; adjust based on blood glucose logs and patterns.
- ❖ Safety Considerations: Rotate injection sites, teach proper technique, and counsel on hypoglycemia prevention.



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Complications of Uncontrolled Diabetes

- ❖ Neuropathy: Nerve damage causing numbness, pain, or weakness.
- ❖ Nephropathy: Kidney damage leading to potential failure.
- ❖ Retinopathy: Vision impairment or blindness.
- ❖ Prevention: Regular monitoring, medication adherence, lifestyle changes (Carmienke et al., 2022).



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Foot Care and Daily Checks

Patients should:

- ❖ Check feet daily for cuts, blisters, redness, or swelling.
- ❖ Maintain good hygiene and moisturize (avoid between toes).
- ❖ Promptly report any abnormalities to a provider.



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Preventing Acute Complications

- Hypoglycemia Recognition & Management: Educate on symptoms (sweating, tremors) and the “15/15 rule” (15 g carbs, recheck in 15 min).
- DKA & HHS: Identify triggers (infection, missed insulin), monitor ketones, and know emergency protocols.
- Emergency Escalation: When oral carbs fail or DKA suspected, arrange EMS or hospital transfer.
- Documentation & Reporting: Record hypoglycemic events and interventions to adjust future care.



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Preventing Chronic Complications

- ❖ Microvascular Screening: Annual eye exams, urine microalbumin, foot exams to detect retinopathy, nephropathy, neuropathy.
- ❖ Macrovascular Risk Reduction: Control blood pressure, lipids; encourage smoking cessation and antiplatelet therapy when indicated.
- ❖ Interprofessional Referrals: Coordinate with ophthalmologists, podiatrists, nephrologists, and dietitians.
- ❖ Patient Self-Care: Emphasize foot care routines, smoking cessation programs, and home BP monitoring.



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Patient Education Strategies

- ❖ Tailor education based on health literacy levels.
- ❖ Use Teach-Back Method: Ask patients to demonstrate or explain back information to confirm understanding.

Patient Education Strategies

- ❖ Goal-Setting: Use SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound) to drive motivation.
- ❖ Digital Tools & Support: Recommend apps for carb counting, virtual support groups, and telehealth check-ins.
- ❖ Encourage self-monitoring of glucose, diet, and physical activity.

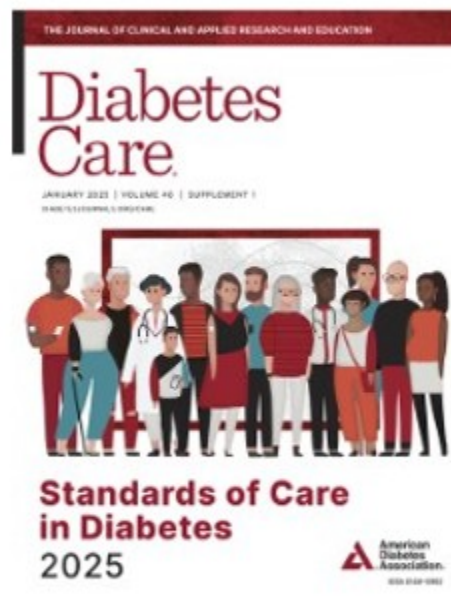



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Following Evidence-Based Protocols

Refer to ADA (2025) Standards of Diabetes Care in Diabetes – 2025, which includes

- Improving
- Care and Promoting Health in Populations
- Diagnosis and Classification of Diabetes
- Glycemic Goals and Hypoglycemia
- Diabetes Technology
- Pharmacologic Approaches...
- And many more.





Following Evidence-Based Protocols

- ❖ Adhere to institutional guidelines.
- ❖ Document care and interventions in the EMR accurately.
- ❖ Participate in protocol walkthroughs and simulations to improve and maintain knowledge base.

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Interprofessional Collaboration Promotes Comprehensive Patient Care

- ❖ Nurses: Monitor, educate, coordinate
- ❖ physicians: Diagnose, manage, treat
- ❖ Pharmacists: Manage and review medications
- ❖ Dietitians: Guide nutrition and meal planning
- ❖ Social Workers: Support access to resources
- ❖ case Managers: Coordinate transitions of care



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Staff Intent and Commitment

- ❖ Apply evidence-based guidelines consistently.
- ❖ Engage in continuing education for up-to-date practices.
- ❖ Use algorithms, protocols, and tools in daily care.
- ❖ Seek feedback and evaluate care quality regularly.
- ❖ Promote equitable diabetes care through cultural understanding of the patient's unique background.



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Promote a Holistic Patient Approach to Diabetes Management


Patient Profile:

- 58-year-old woman, newly diagnosed Type 2 diabetes, BMI 32, hypertension, limited English proficiency.

Key Care Points:

- **Initial Therapy:** Start metformin; consider SGLT2 inhibitor given cardiovascular risk.
- **Education Plan:** Use interpreter, teach-back for Self Monitoring Blood Glucose and hypoglycemia management.
- **Lifestyle Goals:** SMART goals—30 minutes walking 5 days/week; reduce sugary beverages.
- **Follow-Up:** Weekly telehealth check-in for 4 weeks, then monthly labs and foot exam.






Summary and Key Takeaways

- ❖ Diabetes management requires knowledge, vigilance, and teamwork.
- ❖ Proper education, monitoring, and protocol adherence can improve outcomes.
- ❖ Commit to continual learning and patient-centered care.

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Thank You for Attending.

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References

- American Diabetes Association Professional Practice Committee (2024). Summary of revisions: Standards of Care in Diabetes-2024. *Diabetes Care*, 47(Supplement_1), S5–S10. <https://doi.org/10.2337/dc24-SREV>
- American Diabetes Association. (n.d.). *Medical practitioners: Stay on the cutting edge of diabetes care*. Retrieved July 19, 2025 from <https://diabetes.org/tools-resources/for-professionals/medical-practitioners>
- Carmienke, S., Baumert, J., Gabrys, L., Heise, M., Frese, T., Heidemann, C., & Fink, A. (2020). Participation in structured diabetes mellitus self-management education program and association with lifestyle behavior: results from a population-based study. *BMJ Open Diabetes Research & Care*, 8(1), e001066. <https://doi.org/10.1136/bmjdr-2019-001066>



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References

- Centers for Disease Control and Prevention (CDC). (2024). *National Diabetes Statistics Report*. <https://www.cdc.gov/diabetes/php/data-research/index.html>
- Clinic Protocol Manual. (2024). Primary Care Diabetes Management Protocols and Procedures. [Internal Use Document—Include Local Clinic Policy Details]
- Yasmin, F., Nahar, N., Banu, B., Ali, L., Sauerborn, R., & Souares, A. (2020). The influence of mobile phone-based health reminders on patient adherence to medications and healthy lifestyle recommendations for effective management of diabetes type 2: A randomized control trial in Dhaka, Bangladesh. *BMC Health Services Research*, 20, 1-12.



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Appendix B: Educational Pretest

Development of an Educational Intervention to Enhance Nurses' Knowledge and Intent to Implement Evidence-Based Diabetes Self-Management in Clinical Practice

1. Purpose: This questionnaire aims to assess your current knowledge level.
2. Confidentiality: Your responses will be kept confidential and anonymous.
3. Time: The questionnaire should take approximately 10 minutes to complete.
4. Identification Number: Please place a six-digit identification number on this test that you will remember as you will need to use it again following the presentation. Do not use consecutive numbers. Use a unique string of numbers (e.g., 357834). Only place the number on the test – not your name or any other personal information.
Six Digit Identification Number: _____
5. Directions: Please select the correct response to each of the following items by circling your selection. There is only one correct response for each item.

Section 1: Knowledge

1. What is the primary function of insulin?
 - A. Raise blood pressure
 - B. Lower cholesterol
 - C. Regulate blood glucose
 - D. Aid digestion
2. Which condition is more common in Type 2 diabetes than in Type 1?
 - A. Autoimmune destruction
 - B. Insulin resistance
 - C. Genetic mutation
 - D. Pancreatitis
3. What is the recommended frequency for A1C testing in well-controlled patients?
 - A. Every month
 - B. Twice a year
 - C. Every 3 years
 - D. Weekly

4. Which symptom is most associated with hyperglycemia?
 - A. Cold sweats
 - B. Frequent urination
 - C. Slurred speech
 - D. Sudden confusion

5. Which nutrient primarily affects blood sugar levels?
 - A. Protein
 - B. Carbohydrates
 - C. Fat
 - D. Fiber

6. What is the normal range for fasting blood glucose?
 - A. 70–99 mg/dL
 - B. 100–125 mg/dL
 - C. 126–150 mg/dL
 - D. Over 200 mg/dL

7. Which of the following is NOT a symptom of hypoglycemia?
 - A. Shakiness
 - B. Confusion
 - C. Sweating
 - D. Increased energy

8. How often should a diabetic patient check their feet?
 - A. Once a week
 - B. Every other day
 - C. Daily
 - D. Monthly

9. What does A1C measure?
 - A. Blood sugar after meals
 - B. Average blood sugar over 2–3 months
 - C. Insulin levels
 - D. Ketones in urine

10. Which of the following is a complication of uncontrolled diabetes?
- A. Neuropathy
 - B. Asthma
 - C. Skin rash
 - D. Broken bones
11. Which hormone helps to increase blood glucose levels when they are too low?
- A. Insulin
 - B. Glucagon
 - C. Cortisol
 - D. Epinephrine
12. What is a common long-term complication of diabetes affecting the kidneys?
- A. Nephropathy
 - B. Neuropathy
 - C. Retinopathy
 - D. Cardiomyopathy
13. Which of the following is the best description of 'insulin resistance'?
- A. Lack of insulin production
 - B. Cells not responding properly to insulin
 - C. Excess insulin in the body
 - D. Autoimmune attack on insulin
14. Which factor does **not** contribute to developing Type 2 diabetes?
- A. Obesity
 - B. Physical inactivity
 - C. Family history
 - D. Daily insulin injections
15. Which tool would you use to monitor immediate blood glucose levels?
- A. Urinalysis strip
 - B. Glucometer
 - C. Insulin pump
 - D. A1C test

Section 2: Intentions. Please indicate your level of agreement with the following statements using the scale below and placing an X in the box:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

Item	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
1. I intend to follow ADA hypoglycemia treatment protocols during every shift.					
2. I feel confident titrating insulin per standing orders/clinic protocol.					
3. I plan to document patient education on SMBG at each diabetes visit.					
4. I intend to use the clinic's diabetes care checklist on every eligible patient.					
5. I feel prepared to escalate care per protocol when A1C is above target.					
6. I can reliably recognize signs/symptoms of hypo- and hyperglycemia.					
7. I intend to reinforce sick day rules with patients at appropriate visits					

Appendix C: Educational Posttest

Development of an Educational Intervention to Enhance Nurses' Knowledge and Intent to Implement Evidence-Based Diabetes Self-Management in Clinical Practice

1. Purpose: This questionnaire aims to assess your current knowledge level.
2. Confidentiality: Your responses will be kept confidential and anonymous.
3. Time: The questionnaire should take approximately 10 minutes to complete.
4. Identification Number: Please place a six-digit identification number on this test that you will remember as you will need to use it again following the presentation. Do not use consecutive numbers. Use a unique string of numbers (e.g., 357834). Only place the number on the test – not your name or any other personal information.

Six Digit Identification Number: _____

Directions: Please select the correct response to each of the following items by circling your selection. There is only one correct response for each item.

Section 1: Knowledge

1. What is the primary function of insulin?
 - A. Raise blood pressure
 - B. Lower cholesterol
 - C. Regulate blood glucose
 - D. Aid digestion
2. Which condition is more common in Type 2 diabetes than in Type 1?
 - A. Autoimmune destruction
 - B. Insulin resistance
 - C. Genetic mutation
 - D. Pancreatitis
3. What is the recommended frequency for A1C testing in well-controlled patients?
 - A. Every month
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4. Which symptom is most associated with hyperglycemia?
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6. I can reliably recognize signs/symptoms of hypo- and hyperglycemia.					
7. I intend to reinforce sick day rules with patients at appropriate visits					

Appendix D: Pre and Post Test Knowledge Scores of Staff Participants (N = 7)

Participant	Pretest Score (%)	Posttest Score (%)	Gain (%)
1	46.7	73.0	26.3
2	40.0	66.7	26.7
3	53.3	80.0	26.7
4	33.3	53.3	20.0
5	60.0	80.0	20.0
6	40.0	60.0	20.0
7	46.7	73.3	26.6
Mean	45.7	69.5	23.8