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NURS-FPX4025 Assessment 2

Applying an EBP Model

Using the Iowa Model to Improve Glucose Monitoring

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Educational sample notice
This original model demonstrates one strong way to organize the assessment. It is not an official Capella University document. Learners must use the current courseroom instructions, their own simulation evidence, their own presentation recording, and their own clinical judgment.

Primary keyword: NURS-FPX4025 Assessment 2 Applying an EBP Model

Related keywords: Iowa Model, evidence-based practice, type 2 diabetes, continuous glucose monitoring, CGM implementation, evidence appraisal

Applying the Iowa Model to Continuous Glucose Monitoring

Type 2 diabetes mellitus is a progressive metabolic disorder in which insulin resistance and declining beta-cell function produce chronic hyperglycemia. Persistent hyperglycemia increases the risk of kidney disease, neuropathy, retinopathy, cardiovascular disease, infection, and avoidable hospitalization. The practice issue selected for this assessment is inadequate glucose pattern recognition among adults who use basal insulin but remain above their individualized HbA1c goal. Fingerstick testing provides isolated values, and patients may not see overnight, post-meal, or symptom-free glucose changes. An evidence-based approach is needed because technology is useful only when the patient can access it, understand it, and act safely on the information.

The Iowa Model is appropriate because it moves a clinical concern from problem identification through evidence appraisal, pilot testing, evaluation, integration, and dissemination. It also requires the team to judge whether an issue is an organizational priority before investing resources. For CGM, this is important because the practice change affects nursing education, prescribing, data review, insurance authorization, information technology, and follow-up workflows.

Step 1: Identify the Trigger

The problem-focused trigger is repeated evidence of poor glycemic control among adults using basal insulin. Local signals may include HbA1c above the individualized target, emergency visits for severe hyperglycemia or hypoglycemia, inconsistent fingerstick logs, and patient reports that they do not understand how food, activity, stress, and medication affect glucose. The knowledge-focused trigger is the growing evidence that CGM improves HbA1c and time in range in adults with type 2 diabetes.

Step 2: Determine Organizational Priority

The team should compare the problem with strategic goals such as reducing diabetes complications, improving chronic-disease outcomes, advancing health equity, and avoiding preventable utilization. A baseline audit would identify the number of basal-insulin users with HbA1c above 8%, current emergency visits, payer denial rates, and disparities in device access. If the burden is meaningful and leadership can support training and follow-up, the issue should be designated a priority.

Step 3: Form an Interprofessional Team

The core team should include a bedside or ambulatory nurse champion, diabetes care and education specialist, primary care clinician, endocrinology consultant, pharmacist, quality-improvement specialist, information technology analyst, payer-authorization representative, and at least one patient advisor. The nurse champion should coordinate workflow design and education. The pharmacist can review medications that increase hypoglycemia risk. The patient advisor can identify language, cost, alarm, privacy, and technology barriers that clinicians may overlook.

Step 4: Assemble, Appraise, and Synthesize Evidence

The evidence search used PubMed/MEDLINE, CINAHL, Cochrane Library, and the American Diabetes Association Standards of Care. Search terms included *type 2 diabetes*, *basal insulin*, *continuous glucose monitoring*, *CGM*, *self-monitoring of blood glucose*, *HbA1c*, *time in range*, and *randomized trial*. Filters emphasized adult populations, English-language evidence, systematic reviews, clinical trials, guidelines, and publications from 2021 through 2026.

Evidence Appraisal

Source	Design	Main finding	Credibility and relevance
Martens et al. (2021)	Multicenter RCT; 175 adults using basal insulin.	CGM produced a larger HbA1c reduction and more time in range than blood glucose meter monitoring.	High relevance and strong internal validity; open-label design and eight-month follow-up limit certainty about long-term complications.
Grace & Salyer (2022)	Prospective six-month single-arm study; 38 adults using less intensive therapy.	HbA1c and time in range improved after rtCGM adoption.	Relevant to real-world primary care, but the small sample and absence of a control group weaken causal inference.
Uhl et al. (2024)	Systematic review and meta-analysis of 14 RCTs.	CGM reduced HbA1c by about 0.32 percentage points, with generally favorable glucose metrics.	High-level synthesis using GRADE; trials were short and reported limited hospitalization outcomes.
ADA (2026)	Current expert clinical practice guideline with formal evidence grading.	Supports individualized access to diabetes technology, structured education, and ongoing training.	Highly authoritative and current; recommendations still require local feasibility and patient preference assessment.

Step 5: Design and Pilot the Practice Change

The proposed pilot is a 12-week nurse-led CGM pathway for 30 adults with type 2 diabetes who use basal insulin, have HbA1c of 8% or higher, and agree to device training and follow-up. Exclusion is not based on age alone. Instead, the team assesses whether the patient or caregiver can safely use the device and whether accommodations can address vision, dexterity, cognition, language, or technology barriers.

Pilot Workflow

- **Referral and eligibility:** The primary care clinician identifies the patient, documents medical necessity, and refers to the nurse-led pathway.
- **Access review:** The team checks insurance, out-of-pocket cost, smartphone compatibility, language needs, internet access, and caregiver support.
- **Onboarding:** The nurse teaches insertion, calibration or confirmation requirements, trend arrows, alerts, skin care, hypoglycemia treatment, and when to call the clinic. Teach-back and return demonstration are documented.
- **Early safety contact:** A nurse calls within 72 hours to address alarms, sensor problems, or anxiety.
- **Data review:** At two and six weeks, the nurse and prescriber review the ambulatory glucose profile, time in range, time below range, recurring patterns, medication adherence, nutrition, and activity.
- **Closeout:** At 12 weeks, the team evaluates HbA1c or glucose management indicator, time in range, hypoglycemia, satisfaction, continued access, and whether the device should continue.

Step 6: Evaluate Outcomes

Measure	Operational definition	Target
HbA1c	Change from baseline to approximately 12 weeks.	Mean reduction of at least 0.5 percentage points or individualized improvement.
Time in range	Percent of CGM readings between 70 and 180 mg/dL.	Increase without clinically important rise in time below range.
Safety	Severe hypoglycemia, urgent calls, skin injury, data-sharing errors, and device-related adverse events.	No preventable severe event; rapid response to device concerns.
Equity	Enrollment and completion by insurance, language, age, race/ethnicity, disability, and rurality when data are available.	No unexplained gap in offer, initiation, training completion, or continuation.
Patient experience	Confidence, burden, alarm fatigue, satisfaction, and willingness to continue.	At least 80% report that the device supports self-management.

Step 7: Integrate, Sustain, and Disseminate

If the pilot improves glycemic outcomes without unacceptable safety or equity problems, the team should standardize the referral order, eligibility checklist, nurse education script, documentation template, data review schedule, and escalation protocol. Sustainability requires competency validation for nurses, device supply planning, annual review of payer rules, and a backup plan when a patient loses coverage or cannot tolerate the device.

Results should be shared with the clinic quality council, nursing practice committee, prescribers, patient advisory group, and organizational leadership. A short dashboard can report enrollment, HbA1c change, time in range, safety events, patient experience, and access gaps. External dissemination could include a poster, professional meeting, or quality-improvement report, but patient privacy and organizational approval must be protected.

Ethical and Equity Considerations

CGM should not become a technology privilege offered only to patients who speak English, own a newer smartphone, or have commercial insurance. The team should use interpreters, printed and visual teaching, receiver devices when appropriate, caregiver training, financial assistance navigation, and alternative monitoring plans. Patients must understand what data are shared, who can view them, how alerts work, and that they may decline the technology. Shared decision-making is necessary because some patients experience alarm fatigue, information overload, skin reactions, or anxiety.

Conclusion

The Iowa Model provides a disciplined method for moving CGM evidence into practice. The evidence supports a carefully designed pathway for adults with type 2 diabetes using basal insulin, but a device alone is not the intervention. The effective intervention is CGM plus equitable access, structured nurse education, early troubleshooting, clinical review of glucose patterns, and coordinated medication decisions. A small pilot with predefined clinical, safety, experience, and equity measures allows the organization to learn before wider adoption.

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Assessment Coverage Map

This table shows where the sample addresses the major assessment expectations.

Requirement	Location in Sample
Explain a diagnosis issue that can benefit from EBP.	Introduction and Step 1
Describe every step of a selected EBP model.	Steps 1 through 7 of the Iowa Model
Apply the model to the search for evidence.	Step 4: search strategy and appraisal
Analyze at least three credible and relevant resources.	Evidence Appraisal table
Connect evidence to implementation and outcomes.	Pilot Workflow, Outcomes, Integration, and Conclusion