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Preparing for the new nursing licensure exam: The next-generation NCLEX

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Abstract: The National Council of State Boards of Nursing is changing its licensure exam to focus on a clinical judgment model. This article describes the current National Council Licensure Exam (NCLEX), the shift in focus from the nursing process to clinical judgment, and the intended emphasis of the next-generation NCLEX.

Keywords: National Council Licensure Exam, National Council of State Boards of Nursing, NCLEX, NCSBN, next-generation NCLEX, NGN, nursing process, Tanner's Clinical Judgment Model

TO BECOME A LICENSED RN, LPN, or LVN, the board of nursing in each state, commonwealth, or territory requires qualified nursing program graduates, or candidates, to pass standardized National Council Licensure Exams for RNs and LPNs and LVNs (NCLEX-RN or NCLEX-PN) to measure competencies for safe practice in entry-level nursing roles.[1,2] In terms of format and content, these electronic exams have not changed in more than 15 years. This article discusses the planned transition from the current NCLEX, formerly "the boards," to a next-generation NCLEX (NGN) to better prepare new nursing graduates to enter healthcare.

NCLEX basics

The National Council of State Boards of Nursing (NCSBN) develops licensure exams consistent with current nursing practice. The organization surveys a large sample of new graduates every 3 years to determine which skills and competencies are vital for nursing practice. These data become the basis of the test plans for the NCLEX-RN and NCLEX-PN and guide the development of the exams.

The test plans include five integrated processes (IPs) for nursing

practice.[1,2] One IP for the NCLEX-RN is the nursing process, which is defined as "a scientific, clinical reasoning approach to client care that includes assessment, analysis, planning, implementation, and evaluation."[2] Nursing diagnosis, which includes the NANDA International (NANDA-I) classification system, is not included in this IP because NANDA-I is not used by all nurses or clinical agencies. NANDA-I develops and promotes standardized terminology to improve healthcare and ensure patient safety through evidence-based care.[3] Although the NCSBN does not address NANDA-I nursing diagnoses on the NCLEX, many prelicensure programs include these in their curricula. The other four IPs, which are integrated into both NCLEX exams, are caring, teaching and learning, communication and documentation, and culture and spirituality.

The current NCLEX is administered as a secure, adaptive electronic test. The total number of items (or questions) a candidate receives depends on how well he or she answers other items of varying levels of difficulty. The licensure exams consist of two types of multiple-choice test items: single-response and multiple-response (also known as select-all-that-apply) questions. These items present a brief patient (or client) situation and a question, followed by answer choices. Each client situation is specific, focusing on one aspect of nursing care rather than a complex clinical situation. Only information needed to answer the question is provided, and keywords are bolded to reduce potential reading errors. The exam measures content knowledge as right or wrong, and candidates select one or more correct answers for these items. (See *Current NCLEX multiple-choice test items*.)[4]

Today, many nursing educators teach the steps of the nursing process as a tool for critical thinking and clinical decision-making.

The remainder of the NCLEX includes fill-in-the-blank items that typically require drug dosage or I.V. calculations, drag-and-drop items that require prioritization, items that require data collection from the medical record, and hot spot items in which participants select a focused area of an image to demonstrate technical or assessment skills. Most candidates are provided with only a few of these item types during the NCLEX.[5]

Evolution of the nursing process

Introduced in 1967, the nursing process was originally a four-step problem-solving method that included assessment, planning, implementation, and evaluation.[6] Analysis, sometimes called nursing diagnosis, was added as an additional step in the early 1970s. The American Nurses Association outlines the five steps as:[7]

- assessment
- diagnosis
- outcomes or planning
- implementation
- evaluation.

Today, many nursing educators teach the steps of the nursing process as a tool for critical thinking and clinical decision-making. However, the nursing process is a basic, linear sequential approach with narrow definitions for each step. For example, some authors state that ongoing patient monitoring cannot be a nursing intervention because monitoring is an assessment.

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Current NCLEX multiple-choice test items

Single-response multiple-choice test item:
A nurse is caring for a client receiving amlodipine for hypertension. What should the nurse's **priority** assessment be before administering this medication?
☐ Check liver enzyme values.
☐ Check serum electrolyte values.
☑ Obtain apical pulse and BP measurements.
☐ Weigh the client before breakfast.

Select-all-that-apply test item:
A nurse assesses a client with early-stage rheumatoid arthritis. Which assessment finding(s) should the nurse anticipate? **Select all that apply.**
☐ subcutaneous nodules near the elbow
☑ swollen, red, and painful small joints
☑ weakness and fatigue
☐ joint deformities
☐ vasculitic lesions

clinical decision-making instead of the nursing process. It was developed based on an analysis of the literature regarding how nurses think and function in practice. This model identifies four phases of clinical judgment:[8]

- ***noticing*** the client's condition and clinical situation
- ***interpreting*** the data to determine the clinical problem or issue
- ***responding*** to the clinical situation as needed
- ***reflecting*** on both the client's response and the nurse's clinical actions to determine the effectiveness of care.

A basis in clinical judgment

In 2020, the first-time pass rate for candidates taking the NCLEX-RN was approximately 87%.[9] For those taking the NCLEX-PN, this figure was approximately 83%.[9] Despite the high NCLEX pass rates when the nursing process is the primary focus of education initiatives, instances of practice errors and missed care have been increasing.[9,10] These errors suggest that the current NCLEX may not be an accurate assessment of clinical competence.

A recent NCSBN systematic review found that 50% of practicing nurses are involved in patient errors and 65% of those errors are due to poor clinical judgment. In addition, only 20% of nursing employers are satisfied with newly graduated nurses' clinical decision-making skills.[10] Similarly, a large 2017 study demonstrated that only 23% of 5,000 newly graduated nurses hired over a 5-year period demonstrated clinical judgment skills. Although many nursing program graduates could recognize changes or deterioration in patients, they were unable to explain what interventions were appropriate.[11]

Based on these data, the NCSBN explored whether the current NCLEX ensures competence in providing safe, evidence-based care

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among entry-level nurses. Following a thorough review of clinical judgment approaches, a comprehensive definition and model for clinical judgment was developed with input from community stakeholders and nursing experts. The NCSBN defined clinical judgment as "an iterative process that uses nursing knowledge to observe and assess presenting situations, identify a prioritized client concern, and generate the best possible evidence-based solutions in order to deliver safe client care."[10]

Additionally, the NCSBN created the National Clinical Judgment Measurement Model (NCJMM). Although it was originally created to provide guidance and direction on how to measure clinical judgment using test items, the NCJMM is also considered an action model. Action models reflect actual practice to achieve positive patient outcomes in nursing clinical judgments. As such, the NCJMM may be relevant in both academic nursing education and clinical practice.

The NCJMM identifies six cognitive (thinking) skills or processes, also known as clinical reasoning skills, needed for safe and appropriate clinical judgments, including:[12,13]

- ***recognizing cues (what matters most?):*** Cues are elements of the assessment data that provide important information for nurses as they make clinical decisions. Assessment data are collected from clients, families, other healthcare professionals, clinical environments, or the electronic health record. Nurses should determine which data are relevant or directly related to client outcomes or the priority of care, and which data are irrelevant, or unrelated to client outcomes or priority of care. From there, they should determine which assessment data are most important and of immediate concern.
- ***analyzing cues (what could it mean?):*** Nurses should consider

Comparing the nursing process with common clinical judgment models

Nursing process	Tanner's Clinical Judgment Model	NCJMM
Assessment	Noticing	Recognize cues
Analysis	Interpreting	Analyze cues
Analysis	Interpreting	Prioritize hypotheses
Planning	Responding	Generate solutions
Implementation	Responding	Take action
Evaluation	Reflecting	Evaluate outcomes

the identified relevant cues in the context of a client's history and how they relate to that client's condition. This skill allows nurses to identify cues that support the clinical situation and determine why certain cues may be more concerning than others. It also includes identifying potential complications that may arise in the client's condition.

• ***prioritizing hypotheses (where to start?):*** Nurses should consider all possibilities surrounding a clinical situation to determine which explanations are most likely and most serious, and why. By considering the urgency and possible risks, nurses can prioritize potential client needs and complications.

• ***generating solutions (what can be done?):*** First, nurses should identify expected client outcomes. Using prioritized hypotheses, they can then plan and anticipate specific actions to achieve desirable outcomes. Which actual or potential evidence-based actions should be avoided or are contraindicated? Nurses should remember that some actions can be harmful to clients in a given situation.

• ***taking action (what will be done?):*** Which nursing actions will address the highest priorities for client care? These actions may include, but are not limited to, additional assessments, client education, documentation, requested provider prescriptions, performance of nursing skills, and consultation with the healthcare team.

• ***evaluate outcomes (did it help?):*** Nurses should evaluate the actual client outcomes in a clinical situation and compare them with the expected outcomes. By determining what clinical assessment findings indicate improvement, decline, or no change in the client's condition, nurses can determine if their actions were effective, ineffective, or unrelated.

Nursing process and clinical judgment

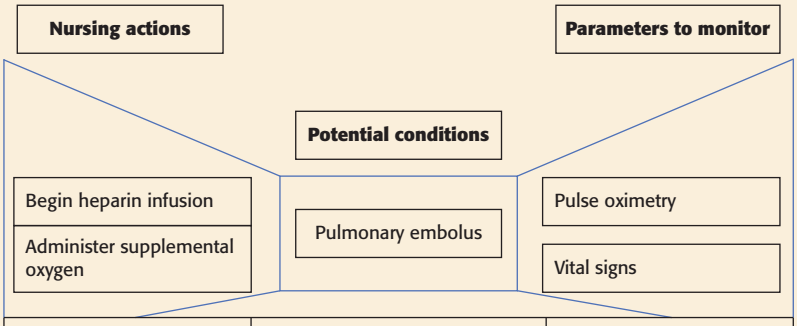
Although the definition and model of clinical judgment were systematically developed by the NCSBN based on current evidence and input from nursing experts, a small number of nurse leaders lobbied to retain the nursing process as the profession's clinical decision-making model. Among the group's concerns was the notion that clinical judgment is replacing the nursing process as a clinical decision-making model for the profession. However, the linear steps of the nursing process serve as the foundation for the NCJMM. Similarly, the cognitive skills of the NCJMM can be aligned with the steps of the nursing process, as well as the phases of Tanner's Clinical Judgment Model. (*See Comparing the nursing process with common clinical judgment models.*)

Additionally, this group of nurse leaders felt that the NCJMM had not been researched as a better decision-making process. However, the NCJMM and its six cognitive skills are based on a meta-analysis of the related literature, representing an evidence-based model.[12] The group also felt the NCJMM may be too complex and confusing to teach. However, the entire model is not intended to be taught or included in prelicensure nursing curricula. Instead, nursing students will need to learn what clinical judgment is and how to apply the six cognitive skills to make appropriate decisions and ensure patient safety.

Bowtie test item

Clinical scenario: A male client, 51, is admitted to the acute care unit with a history of uncontrolled type 1 diabetes mellitus, obesity, and diverticulitis. For 2 days, he has experienced tightness in his chest and was short of breath at times. He had total knee arthroplasty in his left leg 3 weeks ago, but he is able to ambulate independently with a walker. Upon admission, he is dyspneic with the following vital signs: Temperature: 98° F (36.7° C); heart rate: 92 beats/minute; respiratory rate: 30 breaths/minute; BP:164/90 mm Hg.

Test item: Complete the diagram by dragging the choices below to the appropriate location to specify which condition the client is most likely to be experiencing, as well as two actions the nurse should take to address this condition and two parameters the nurse should monitor to assess client progress.



Nursing actions	Potential conditions	Parameters to monitor
Begin heparin infusion	Pulmonary embolus	Point-of-care glucose level
Maintain N.P.O. status	Lower gastrointestinal bleeding	Pulse oximetry
Obtain an ECG	Unstable angina	Pain level
Administer supplemental oxygen	Diabetic ketoacidosis	Vital signs

The final concern among this group of nurse leaders was that nursing faculty will have to revise their entire curriculum to teach clinical judgment. However, the faculty will not need to revise or redesign their curricula, as they can use the nursing process as a foundational "building block" upon which to introduce and incorporate clinical judgment and the six cognitive skills.

New test items

The NGN is being developed for both RN and LPN and LVN nursing graduates, and the NCSBN plans to launch it no sooner than 2023. In addition to the clinical judgment definition and model, new test item types have been shared in case-based formats as an example of how these items will be presented in the NGN. Specifically, candidates for licensure can expect to answer test items related to standalone scenarios and unfolding case studies.

Standalone scenarios will represent typical or expected client situations that newly graduated nurses are likely to encounter and expected to help manage. In most cases, these scenarios will be presented with data from the electronic health record, including any nurses' notes, providers' orders, and/or vital signs. These data may indicate potential clinical deterioration or complications often experienced by clients.

Standalone clinical scenarios offer client information and one of two possible NGN test item types: bowtie or trend items. The bowtie item uses the drag-and-drop feature to respond to multiple questions about a client scenario (see *Bowtie test item*). The trend item presents multiple data points for a clinical situation, such as lab findings, physical assessment data, and vital signs.

Unfolding case studies will include three elements:[13]

- a clinical scenario that consists of a minimum of one paragraph to provide

Unfolding case study test item examples

Highlight test item example: Recognizing cues

A male client, 25, was hit by a truck while riding his motorcycle on a narrow rural road. He was thrown into a ditch, and the motorcycle landed on his right leg. His helmet remained intact during the crash. First responders found the client to be alert and oriented at the scene, and he was able to move both arms and his left leg. The only visible injury was **severe bone and soft tissue damage of his right leg.** The client **describes his pain as a 10 on a 0 to 10 pain intensity scale.** His vital signs are as follows: pulse: 90 beats/minute; respirations: 24 breaths/minute; BP: 130/78 mm Hg. The client's leg was immobilized, and he was transported to the ED. Upon his arrival, his nurse reviews the prehospital documentation. Highlight which assessment findings require immediate follow-up by the nurse at this time.

Multiple-response test item example: Analyzing cues

A male client, 25, was hit by a truck while riding his motorcycle on a narrow rural road. His right leg was severely damaged by the motorcycle, and he was transported to the hospital by ambulance. After evaluation by the interdisciplinary healthcare team in the ED and multiple X-ray exams, he was found to have several closed fractures of the femur, tibia, and fibula. Large portions of skin and soft tissues were also damaged, but most of the skeletal muscle remained intact. The client was sedated for fracture reduction and immobilized with a fiberglass splint. After the procedure, he was admitted to the acute care orthopedic unit with an I.V. infusion and patient-controlled analgesia. Select four potential complications for which the client is most at risk.

- ☑ constipation
- ☑ neurovascular compromise
- ☐ sepsis
- ☐ gastrointestinal bleeding
- ☑ pressure injury
- ☑ venous thromboembolism

Matrix multiple-response test item example: Generating solutions

A male client, 25, experienced severe right leg trauma due to a motorcycle crash. After reduction and immobilization of several right leg fractures, the client was admitted to the acute care orthopedic unit with an I.V. infusion and patient-controlled analgesia. The client's I.V. was recently converted to a saline lock because the client was eating and drinking adequate fluids. In the morning, he described his pain level as a 3 on a 0-to-10 pain intensity scale with patient-controlled morphine. His patient-controlled morphine was discontinued at 2000. At 0400, he described his pain level as a 9 on a 0-to-10 pain intensity scale and was subsequently administered the prescribed dose of morphine. At 0500, he described his pain as "more like a 12 out of 10," with the earlier morphine administration offering no relief, and reported painful tingling in his right foot. Use an X to mark whether the following nursing actions are indicated (appropriate or necessary) or contraindicated (could be harmful) at this time.

Nursing action	Indicated	Contraindicated
Perform a neurovascular assessment of the client's lower extremities.	X	
Place the client's right leg on two pillows to decrease swelling.		X
If possible, loosen the leg splint but keep the leg immobilized.	X	
Administer additional morphine to alleviate pain within recommended dosage range.	X	
Collaborate with the physical therapist.		X
Prepare the client for possible fasciotomy.	X	
Contact the primary healthcare provider immediately.	X	

client information, which evolves to include new information through multiple phases of care
• six test items, corresponding to the six cognitive skills of the NCJMM
• various new test item types with multiple answers.

Currently, the NCSBN plans to include 15 new test item types in the NGN, with 13 new item types to be embedded in multiple unfolding case studies and 2 new item types to be included in the standalone scenarios. As each item can have multiple parts to answer, candidates may receive partial credit for these questions.

The new test items for unfolding cases can be categorized into five categories with multiple subtypes:[14] (See *Unfolding case study test item examples.*)
• *Multiple response*. One subtype of this item is similar to the current select-all-that-apply questions. Candidates will select the correct response(s) from a list of up to 10, however, rather than from only 5 or 6 choices in the current multiple response items. In some cases, candidates may be informed about the number of choices to select. Two additional subtypes, multiple response grouping and matrix multiple response, are structured as tables with choices from which the candidate selects the correct responses.
• *Multiple choice*. This item type is currently part of the NCLEX and asks candidates to select one correct response from a list of four choices. On the NGN, the two subtypes for this item are multiple-choice single-response questions and matrix multiple-choice questions. The multiple-choice single-response item will require candidates to select one correct response from a list of 5 to 10 choices. The matrix multiple-choice item will present a table from which candidates will select one correct response from each row of choices.
• *Highlight*. To answer this test item, candidates will have to highlight the relevant, or most pertinent, client assessment data in either a table or a narrative text such as a nurses' note.
• *Drop-down.* Presented in tabular and sentence formats, there are three subtypes of this test item: drop-down rationale, drop-down table, and drop-down cloze (or those in which the answers are embedded in the question, such as fill-in-the-blank or complete-the-sentence questions).[15] For each subtype, a list of choices is presented for each completion sentence (fill-in-the-blank) or table from which candidates choose the correct responses.
• *Drag-and-drop*. The two subtypes of this test item format are drag-and-drop cloze questions and drag-and-drop rationale questions. These questions involve dragging information electronically from one place to another to fill in the blanks of a sentence or table.

The NCJMM may be relevant in both academic nursing education and clinical practice.

Developing clinical judgment

In practice, nurses must use clinical reasoning to make safe and appropriate decisions for quality, evidence-based care. Nurse educators such as those from academic institutions, clinical agencies, and preceptor programs should transition away from the linear steps of the nursing process to educate nursing students and staff nurses on the cognitive skills of the NCJMM. By introducing clinical judgment and planning learning activities in the classroom, lab, or clinical setting, these nurse educators can foster the practice of the six cognitive skills of the NCJMM. These learning activities may include:
• standalone and unfolding case studies with open-ended questions or any test item types found in the NGN.
• reverse case studies in which participants are provided a list of medications and a one-to-two sentence clinical scenario and then asked to develop an unfolding case study.
• concept maps to demonstrate how to apply cognitive skills when managing clinical care in specific situations.
• Venn diagrams of clinical situations or clients based on the assessment data or nursing actions using two overlapping circles to compare and contrast two or more items.[16]
• Socratic questioning to determine clinical thinking, such as "What is the priority for client care in this situation?" or "What will you need to do?"
• reflective journaling to foster critical thinking regarding clinical judgments in a specific client situation, including what could be useful in similar situations in the future.
• high-fidelity simulations to practice clinical reasoning and encourage safe and appropriate clinical decision-making for clients who may be experiencing clinical deterioration or major changes in their condition. High-fidelity simulations use human client simulators, or lifelike manikins, to mimic physiologies in simulated clinical environments.[17]

These activities can be done in pairs or groups to foster teamwork and collaboration. Nurse educators and preceptors may also include these activities when working with newly graduated nurses to develop improved clinical judgment skills.

Practicing nurses must use clinical reasoning, or thinking, skills to make appropriate clinical judgments to keep patients safe and provide quality care. Using realistic clinical scenarios in case studies, the NGN for both RNs and LPNs and LVNs assesses the competence of new graduates with these skills to ensure that they can safely begin nursing practice. ■

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