

# NCSBN and the Next Generation NCLEX® (NGN) Project

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## Objectives

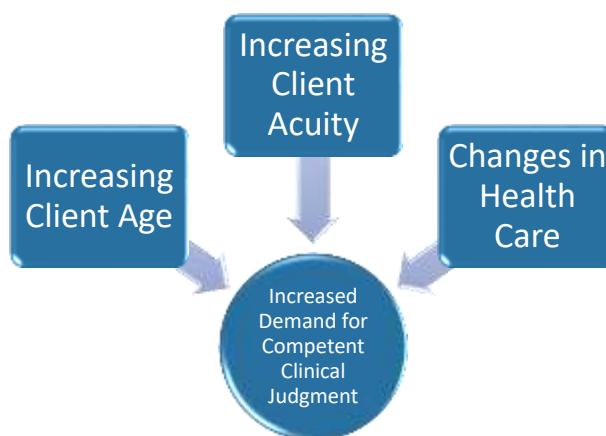
- Discuss NCSBN Clinical Judgment research
- Define Clinical Judgment Model
- Review NGN item prototypes

# Research and Clinical Judgment Measurement Model

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## Nursing and Clinical Judgment



Kavanaugh and Szweda (2017) have identified a deficit in clinical judgment exists with entry-level nurses.

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## The Beginnings



**NEC\* 2012: Is the NCLEX® measuring the right things?**

\*NCLEX Examination Committee

**2015: Strategic Practice Analysis Pilot Study**



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## Literature Review Findings

- Education regarding critical thinking, clinical decision making, and clinical judgment has already become a standard part of nursing curricula

**50%**

novice nurses involved in nursing errors

**65%**

errors attributed to poor clinical decision making

**20%**

employers satisfied with clinical decision making skills of novice nurses

- Clinical judgment is important for public safety

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## Recent Evidence to Support NGN Research

**2012**  
**Functional Job Analysis (RNs)**

- 2,522 SMEs
- 24 Practice Settings
- All 4 Geographic Regions
- 50 States and/or U.S. Territories
- Tenure ranges 0 – 45 years

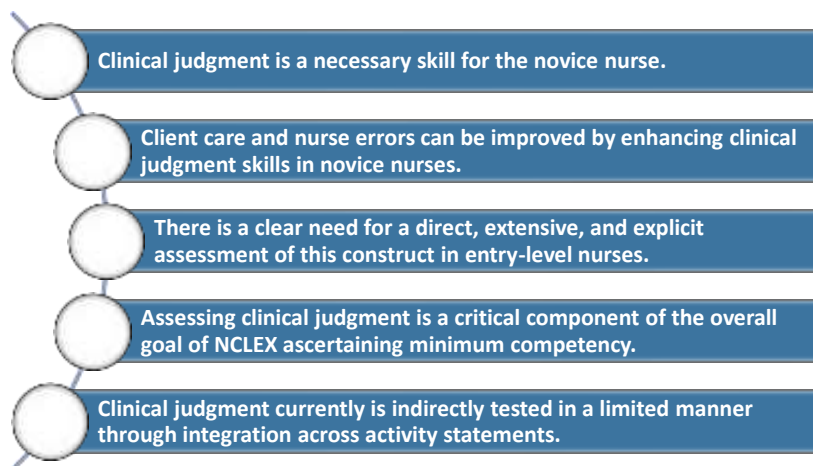
**2015**  
**Strategic Job Analysis (RNs)**

- 90 SMEs
- 20 Practice Settings
- All 4 Geographic Regions
- 33 States
- Tenure ranges 2 – 45 years

### Top 3 Areas Identified:

1. Clinical Judgment
2. Professional Communications
3. Active Listening

## Summary



# Development of NCSBN Clinical Judgment Measurement Model

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## Clinical Judgment Model Frameworks

Three predominant nursing theoretical frameworks for  
assessing clinical judgment

- Intuitive-Humanistic Model (Benner)
- Dual Process Reasoning Theory/Model
- Information Processing Model

**Nursing clinical judgment is difficult to define.**

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## Nursing Process Overview



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## Clinical Judgment Model Definition

January 2015:

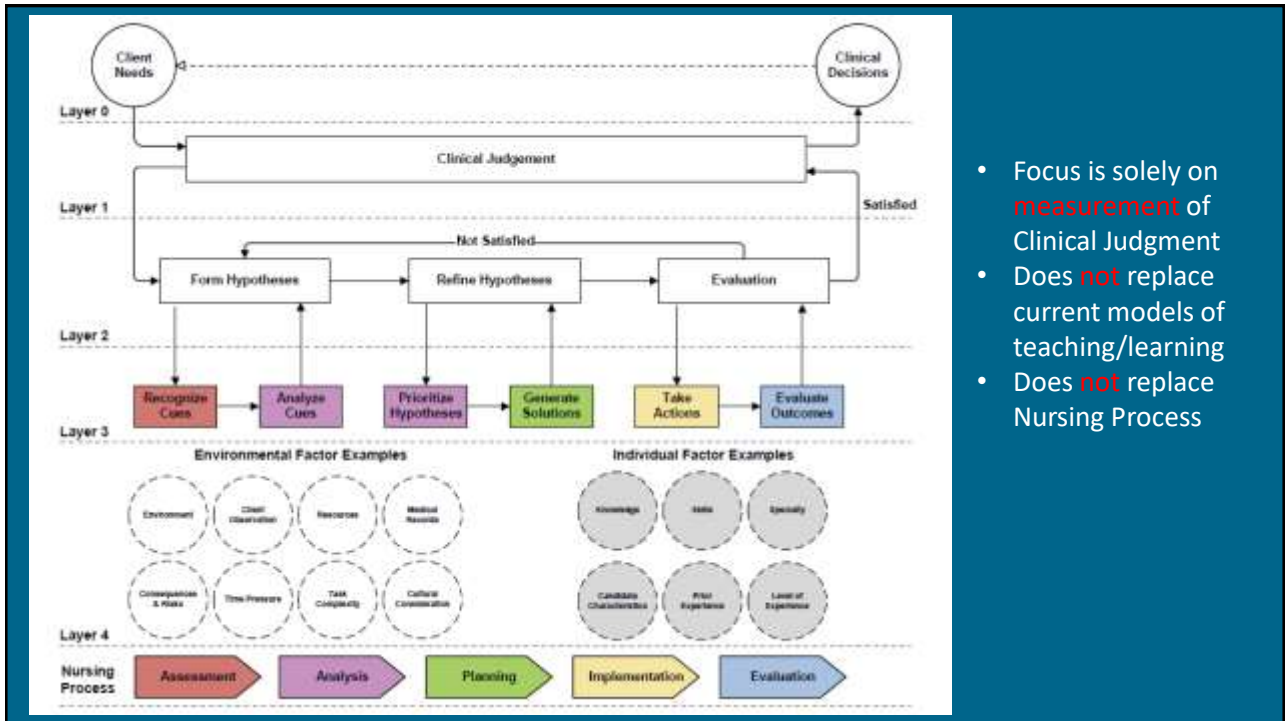
Operational definition of nursing clinical judgment

*Clinical judgment is defined as the observed outcome of critical thinking and decision-making. It is 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.*



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- Focus is solely on measurement of Clinical Judgment
- Does **not** replace current models of teaching/learning
- Does **not** replace Nursing Process

## Definitions of Layer 3

- **Recognize Cues-** Filtering information from different sources (e.g., signs, symptoms, medical history)
- **Analyze Cues-** Linking the recognized cues to the client’s clinical presentation and establishing probable client needs, concerns, or problems
- **Prioritize Hypothesis-** Evaluating and ranking hypotheses according to priority (urgency, likelihood, risk, difficulty, time, etc.)
- **Generate Solutions-** Identifying expected outcomes and using hypotheses to define a set of interventions for the expected outcome
- **Take Action-** Implementing the solution(s) that addresses the highest priorities; sometimes no action is an action itself
- **Evaluate Outcomes-** Comparing observed outcomes against expected outcomes

## Applying the CJ Task Model in Education

- Cognitive Operations = Layer 3
- Factor Conditioning = Layer 4
- Expected behaviors/actions = appropriate student actions or observable outcomes
- The CJ Model assesses if a student is able to make an appropriate nursing clinical judgment by following the cognitive operations through an entire case study.

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Cognitive Function	Conditioning Factor(s)	Expected Behaviors
Recognize Cues	Environment Cues:	Recognize abnormal vs normal
	Patient Observation Cues:	Recognize signs and symptoms
	Medical Record Cues:	
	Time Pressure Cues:	Identify history of
	Analyze Cues	Requires knowledge of signs and symptoms of...
Prioritize Hypothesis	Can give vital signs as resource Can add time pressure for context of vital signs	Requires prioritization of condition... Address condition of...
Generate Solutions	Knowledge of conditions Knowledge of treatment for conditions with nursing intervention	
Take Actions	Experience:	Nursing Intervention...
Evaluate Outcomes	Experience:	Follow-up on labs, vital signs, assessment etc- determine improvement or worsening of condition being treated
	Patient Observation Cue:	



# Next Generation NCLEX (NGN) Prototypes

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## NGN Case Study – What is it?

The primary way the NGN will measure Clinical Judgment is through the use of case studies.

- Similar to “unfolding scenarios” common today in nursing education
- Body of information (“stimulus” or “scenario”) followed by six related questions
- Each question tests an important element of clinical judgment

As you review the sample provided, are you able to identify the connections to real-world, safe and effective care?

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## NGN Case Study – Sample scenario

NCSBN-NGN\_item\_sample-V2 - Candidate Name

Case Study  
Screen 1 of 6

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurses' Notes**

1900: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been having a fever for the past few days and has started to cough up greenish color sputum and is composed of "lemon" throughout her body. The client was recently hospitalized for pneumonia about 6 days ago. The client has a history of hypertension. Vitals signs: T 39.1° F (38.4° C), P 88, RR 22, SpO<sub>2</sub> 92%, pulse oximetry reading 94% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and tracheal crackles are noted as bilateral inspiratory bases. Skin slightly cool to touch and pale pink in tone, pulse +3 and irregular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

- Similar to Exhibits on current RN and PN exams
- Presents information about client and setting
- May use single tab (e.g., "Nurses' Notes") or multiple tabs

## NGN Case Study – Sample item 1 of 6

NCSBN-NGN\_item\_sample-V2 - Candidate Name

Case Study  
Screen 1 of 6

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurses' Notes**

1900: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been having a fever for the past few days and has started to cough up greenish color sputum and is composed of "lemon" throughout her body. The client was recently hospitalized for pneumonia about 6 days ago. The client has a history of hypertension. Vitals signs: T 39.1° F (38.4° C), P 88, RR 22, SpO<sub>2</sub> 92%, pulse oximetry reading 94% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and tracheal crackles are noted as bilateral inspiratory bases. Skin slightly cool to touch and pale pink in tone, pulse +3 and irregular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

Drag the top 4 client findings that would require follow-up to be done on the right.

Client Findings	Top 4 Findings
red lips	
lung crackles	
capillary refill	
client orientation	
radial pulse characteristics	
characteristics of the cough	

- Can students identify the most important information?
- Referred to as "Recognize Cues" in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 2 of 6

NCSBN-NGN\_item\_sample-V2 - Candidate Name

**Case Study Screen 2 of 6**

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurse Notes**

1000: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been running a fever for the past few days and has started to cough up generally colored mucus and to complain of "aches" throughout her body. The client was recently hospitalized for issues with renal filtration 6 days ago. The client has a history of hypertension. Vital signs: T 101.1° F (38.4° C), P 92, RR 22, SpO2 92%, pulse oximetry reading 88% on oxygen at 2 L/min via nasal cannula. Upon admission, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone, pulse +3 and regular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

For each client finding below, click to specify if the finding is consistent with the disease process of pneumonia, a urinary tract infection (UTI), or influenza. Each finding may support more than 1 disease process.

Client Findings	Pneumonia	UTI	Influenza
fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
coughing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
body aches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rough and crackles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
shortness of breath	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Each column must have at least 1 response option selected.

- Can students interpret the most important information?
- Referred to as “Analyze Cues” in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 3 of 6

NCSBN-NGN\_item\_sample-V2 - Candidate Name

**Case Study Screen 3 of 6**

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurse Notes**

1000: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been running a fever for the past few days and has started to cough up generally colored mucus and to complain of "aches" throughout her body. The client was recently hospitalized for issues with renal filtration 6 days ago. The client has a history of hypertension. Vital signs: T 101.1° F (38.4° C), P 92, RR 22, SpO2 92%, pulse oximetry reading 88% on oxygen at 2 L/min via nasal cannula. Upon admission, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone, pulse +3 and regular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

Complete the following sentence by choosing from the lists of options.

The client is at highest risk for developing  as evidenced by the client's .

- Can students synthesize important information to arrive at client needs?
- Referred to as “Prioritize Hypotheses” in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 3 of 6 (continued)

NCSBN-NGN\_item\_sample-V1 - Candidate Name

Case Study  
Screen 3 of 6

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurses' Notes**

1008: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been running a fever for the past few days and has started to cough up greenish colored mucus and is comprised of "sawtooth" shaped hot body. The client was recently hospitalized for issues with renal function 5 days ago. The client has a history of hypertension. Vitals signs: T 101.1°F (38.4°C), P 90, RR 22, SpO2 90% on 2L nasal cannula, pulse oximetry reading 94% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone; pulse +3 and regular. Capillary refill is 2 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

Complete the following sentence by choosing from the lists of options:

The client is at highest risk for developing \_\_\_\_\_ as evidenced by the client's \_\_\_\_\_

Select:

- Can students synthesize important information to arrive at client needs?
- Referred to as “Prioritize Hypotheses” in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 4 of 6

NCSBN-NGN\_item\_sample-V2 - Candidate Name

Case Study  
Screen 4 of 6

The nurse is caring for a 78-year-old female in the Emergency Department (ED).

**Nurses' Notes**

1008: Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been running a fever for the past few days and has started to cough up greenish colored mucus and is comprised of "sawtooth" shaped hot body. The client was recently hospitalized for issues with renal function 5 days ago. The client has a history of hypertension. Vitals signs: T 101.1°F (38.4°C), P 90, RR 22, SpO2 90% on 2L nasal cannula, pulse oximetry reading 94% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone; pulse +3 and regular. Capillary refill is 2 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

1009: Called to include by the daughter who states that her mother "has feeling right." Upon assessment, client is oriented to person, place, and time. Vitals signs: T 100.9°F (38.3°C), P 110, RR 22, SpO2 90% on oxygen at 2 L/min via nasal cannula.

The nurse has reviewed the nurses' note entries from 1008 and 1009 and is planning care for the client.

For each potential nursing intervention, click to specify whether the intervention is indicated, contraindicated, or contraindicated for the case of the client.

Potential Intervention	Indicated	Warranted	Contraindicated
Prepare the client for intubation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place client on a semi-Fowler's position.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Request an order to increase the oxygen flow rate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Request an order to administer an intravenous fluid bolus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Request an order to obtain an additional peripheral venous access device (PVAD).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Can students develop possible care options aligned with client needs?
- Referred to as “Generate Solutions” in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 5 of 6

NCSBN-NGN\_item\_sample-02 - Candidate Name

**Case Study**  
Screen 5 of 6

The nurse is caring for a 79-year-old female in the Emergency Department (ED).

**History**

**1006** Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been coughing a fever for the past few days and has started to cough up greenish-yellow sputum and is complain of "soreness" throughout her body. The client was recently hospitalized for issues with atrial fibrillation 8 days ago. The client has a history of hypertension. Vital signs: T 101.1° F (38.4° C), P 92, RR 22, SpO<sub>2</sub> 92%, pulse oximetry reading 84% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone. JVP is 3 and jugular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

**1007** Called to bedside by the daughter who states that her mother "is having a fight" upon assessment, client difficult to arouse, pale, and diaphoretic in appearance. Vital signs: T 101.2° F (38.4° C), P 112, RR 32, SpO<sub>2</sub> 88%, pulse oximetry reading 81% on oxygen at 2 L/min via nasal cannula.

The nurse has received orders from the physician:

Click to highlight below the 3 orders that the nurse should perform right away:

**Q10:**

- **start on heparin sodium catheter**
- **obtain a 12-lead ECG**
- **computed tomography (CT) scan of the chest**
- **10% sodium chloride concentrate 500 mL, IV, qstat**
- **laboratory tests: blood culture and sensitivity (C & S), complete blood count (CBC), arterial blood gas (ABG)**

- Can students identify and perform the appropriate actions?
- Referred to as "Take Actions" in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 6 of 6

NCSBN-NGN\_item\_sample-02 - Candidate Name

**Case Study**  
Screen 6 of 6

The nurse is caring for a 79-year-old female in the Emergency Department (ED).

**History** **Orders**

**1006** Client was brought to the ED by her daughter due to increased shortness of breath this morning. The daughter reports that the client has been coughing a fever for the past few days and has started to cough up greenish-yellow sputum and is complain of "soreness" throughout her body. The client was recently hospitalized for issues with atrial fibrillation 8 days ago. The client has a history of hypertension. Vital signs: T 101.1° F (38.4° C), P 92, RR 22, SpO<sub>2</sub> 92%, pulse oximetry reading 84% on oxygen at 2 L/min via nasal cannula. Upon assessment, the client's breathing appears slightly labored, and coarse crackles are noted in bilateral lung bases. Skin slightly cool to touch and pale pink in tone. JVP is 3 and jugular. Capillary refill is 3 seconds. Client is alert and oriented to person, place, and time. The client's daughter states, "Sometimes it seems like my mother is confused."

**1007** Called to bedside by the daughter who states that her mother "is having a fight" upon assessment, client difficult to arouse, pale, and diaphoretic in appearance. Vital signs: T 101.2° F (38.4° C), P 112, RR 32, SpO<sub>2</sub> 88%, pulse oximetry reading 81% on oxygen at 2 L/min via nasal cannula.

The nurse has performed the interventions as ordered by the physician for the client:

For each assessment finding, click to specify if the finding indicates that the client's condition has improved, has not changed, or has declined.

Assessment Finding	Improved	No Change	Declined
RR 32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SpO <sub>2</sub> 88%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pale skin tone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pulse oximetry reading 81%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
interacting with daughter at bedside	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Can students determine the effectiveness of interventions?
- Referred to as "Evaluate Outcomes" in NCSBN Clinical Judgment Model

## NGN Case Study – Sample item 6 of 6 (continued)

NCSBN NGN Item Sample #2 - Candidate Name

**Case Study Screen 6 of 6**

The nurse is caring for a 70-year-old female in the Emergency Department (ED).

**Nurses Notes**   **Orders**

**1216**

- insert an indwelling urinary catheter
- reposition (e.g. 30, heavy 12 foot)
- completed hematology (H) test of the client
- 0.9% sodium chloride (normal saline) 500-mL, D5 1000
- laboratory tests: blood culture and sensitivity (C & S), complete blood count (CBC), arterial blood gas (ABG)

The nurse has performed the interventions as ordered by the physician for the client.

For each assessment finding, click to specify if the finding indicates that the client's condition has improved, has not changed, or has declined.

Assessment Finding	Improved	No Change	Declined
RR 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SpO2 92%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pale skin tone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor urinary output (UO)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
interacting with daughter at bedside	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Can students determine the effectiveness of interventions?
- Referred to as “Evaluate Outcomes” in NCSBN Clinical Judgment Model

## NGN Case Study – Summary

The NGN Case Study presents students with a **real-world** nursing situation and measures their ability to identify, analyze, and synthesize the most relevant information into appropriate nursing interventions that are prioritized based on **client needs**, selected and performed correctly, and evaluated for effectiveness.

- Case studies will always include six items
- The order of the items will always match the order of this sample set
- Some case studies will include multiple tabs of information in the stimulus

## Clinical Judgment Measurement Model

The NGN case studies and associated items reflect nursing situations similar to what students are already seeing in **classrooms** and will see in **clinical practice**. However, it is not enough for the NGN to appear to measure important material. NCSBN has worked for more than a decade to ensure the NGN provides an **evidence-based** means of measuring clinical judgment in nursing.

## More than a decade of research...

- 2009 – NCSBN begins research on how to measure clinical judgment in nursing
- 2012 – Comprehensive literature review completed
- 2014 – Strategic job task analysis
- 2015 – Draft assessment framework developed
- 2016 – Usability testing of new item types
- 2017 – Optional research section added to NCLEX-RN
- Today – Continuing research on model, item types, and scoring



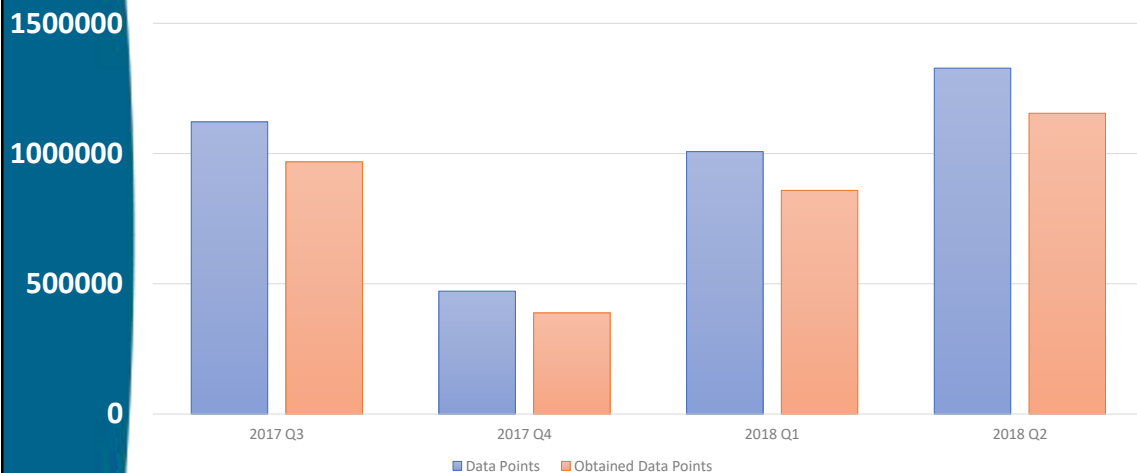
## Item Type Data Collection

- 884 NGN Items and 95 Forms have been deployed in ITDC from July 2017 to December 2018
- 357,113 Candidates took NCLEX-RN exams and 304,626 Candidates (85%) participated in ITDC from July 2017 to December 2018
- NGN participants spent about one minute on NGN Item

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## NGN ITDC Data Points



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# NGN Information on NCSBN Website

**NCLEX & Other Exams**

- Application & Registration >
- Before the Exam >
- Exam Day >
- After the Exam >
- Testing Locations >
- Test Plans >
- Exam Statistics & Publications >
- Next Generation NCLEX Project >**
- NGN FAQs
- NGN FAQs for Candidates
- NGN FAQs for Educators
- NGN Resources
- NGN Presentations & Talks
- NCLEX Research Opportunities
- NCLEX FAQs

## Next Generation NCLEX Project

The 2013-2014 NCSBN Strategic Practice Analysis highlighted the increasingly complex decisions newly licensed nurses make during the course of patient care. NCSBN is conducting research to determine whether clinical judgment and decision making in nursing practice can be reliably assessed through the use of innovative item types. This objective is the Next Generation NCLEX project, or NGN.

### Overview

The NGN consists of several phases of research, which are delineated in the model below. If the evidence during any individual step indicates that potential innovations will not support the rigor and quality of the NCLEX, the project will be reexamined at all levels.

```
graph LR; A[Develop Content Judgment Model] --> B[Item Proficiency Development]; B --> C[Item Quality Testing]; C --> D[Item Development]; D --> E[Launch]; F[Measurement Research] --> G[Application Tests]; G --> H[Launch];
```

**RELATED PAGES**

- NGN FAQs
- NGN Resources

## NGN Resources

### Quarterly Newsletter



<https://www.ncsbn.org/next-generation-nclex.htm>



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Next Generation NCLEX Project:

<https://www.ncsbn.org/next-generation-nclex.htm>

NGN Presentations & Talks:

<https://www.ncsbn.org/ngn-talks.htm>

Next Generation NCLEX FAQs:

<https://www.ncsbn.org/11449.htm>

*Measuring the Right Things*, In Focus article:

<https://www.ncsbn.org/12021.htm>



## NCSBN Clinical Judgment Model Research and Task Model Publications

- Dickison, P., Luo, X., Kim, D., Woo, A., Muntean, W., & Bergstrom, B. (2016). Assessing higher-order cognitive constructs by using an information-processing framework. *Journal of Applied Testing Technology*, 17(1), 1-19. Retrieved from [www.jattjournal.com/index.php/atp/article/view/89187/67797](http://www.jattjournal.com/index.php/atp/article/view/89187/67797).
- Dickison, P., Haerling, K., and Lasater, K. (2019). Integrating the National Council of State Boards of Nursing clinical judgement model into nursing. *Journal of Nursing Education*, 58(2), 72-78. Retrieved from <https://doi.org/10.3928/01484834-20190122-03>.
- Muntean, W. (2012). *Nursing clinical decision-making: A literature review*. Retrieved at [https://www.ncsbn.org/Nursing\\_Clinical\\_Decision\\_Making\\_A\\_Literature\\_Review.htm](https://www.ncsbn.org/Nursing_Clinical_Decision_Making_A_Literature_Review.htm).
- Betts, J., Muntean, W., Kim, D., Jorion, N., Dickison, P. (2019). Building a Method for Writing Clinical Judgment Items for Entry-Level Nursing Exams. *Journal of Applied Testing Technology*, Vol 20(S2), 21-36, 2019.

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**Thank you!**

For additional questions please email:  
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