**Case study: North Carolina Central University (NCCU)**

# How NCCU is transforming nursing education with vrClinicals for Nursing

Wolters Kluwer

**North Carolina Central University Department of Nursing**

## Three degree options:

BSN (bachelor of science in nursing), traditional

A-BSN, accelerated

RN (registered nurse) to BSN

## 100%

NCLEX® pass rate for A-BSN class of 2024

## 366

Nursing and prenursing students

## Ranked #5

Of the best HBCU nursing programs
*U.S. News & World Report 2025 ranking*

## Ranked #9

Of the best nursing programs in North Carolina
*U.S. News & World Report 2025 ranking*

# Introduction

North Carolina Central University (NCCU), a historically Black college or university (HBCU) located within the Research Triangle in Durham, North Carolina, is redefining what it means to prepare tomorrow's nurses for the realities of modern healthcare.

Guided by a mission rooted in service, innovation, and leadership, NCCU is transforming nursing education via immersive simulation technology, including vrClinicals for Nursing from Wolters Kluwer and Laerdal Medical.

NCCU is at the forefront of resolving a growing nursing shortage while serving as a leader among HBCUs: It is ranked the fifth-best HBCU nursing program in 2025 by *U.S. News & World Report*, yet like many institutions, NCCU faced limited access to clinical placements alongside a statewide directive to graduate more nurses. To supplement ongoing initiatives and ensure future readiness, NCCU adopted a bold and scalable strategy aimed at expanding opportunities and supporting long-term growth.

The embedding of virtual reality (VR) into its nursing curriculum is now helping the university produce graduates who are not only clinically competent but also confident communicators and agile decision makers ready to lead in an increasingly fast-paced, digital healthcare system.

For NCCU, the stakes go beyond workforce numbers. As an HBCU, the university is particularly driven to remove disparities in healthcare access and representation. By equipping a multifaceted student body with advanced skills and confidence, NCCU is building a nursing workforce that champions fairness and opportunity for North Carolina and beyond.

As Mohammed Ahmed, PhD, dean of NCCU's College of Health and Sciences, explained, "We prepare our students as global leaders to serve communities not just within North Carolina but also across the nation and the globe."

# The challenge: Expanding nursing capacity without compromising quality

NCCU faces the dual pressures of growing demand for nurses and shrinking access to real-world clinical training. The COVID-19 pandemic and mass retirements have exacerbated an already fragile system. By 2037, North Carolina is projected to have 22 percent fewer nurses than it will need to meet the demands of a growing, aging population — tied for the nation's largest shortfall, according to federal data. That gap translates to 28,850 full-time-equivalent nurses.

To address the crisis, the University of North Carolina System launched the Health Care Workforce Expansion Initiative, with the aim of increasing the numbers of nursing graduates by 50 percent during the next decade. For NCCU, that means preparing more students for practice — without sacrificing quality of training or the school's National Council Licensure Examination (NCLEX) pass rates.

But scaling up is not as simple as admitting more students and adding classroom seats. In the Research Triangle's competitive hospital market, clinical placements are already scarce, with many reserved for affiliated programs. As Ahmed pointed out, Duke University and the University of North Carolina each have their own hospitals that they can use for clinical placements, whereas NCCU does not.

At the same time, today's admitted nursing students arrive with different strengths and gaps. They are highly technologically literate but sometimes less comfortable in face-to-face patient interactions. And many lack confidence in high-pressure clinical situations, struggling to make decisions.

Keva Suitte, MSN, RN, simulation lab coordinator in NCCU's Department of Nursing, said students enter the program unsure of how to interact with patients, adding that they need "a psychologically safe environment" in which to practice, where they can learn from their mistakes — without repercussions.

NCCU also faced a faculty shortage, driven by a wave of faculty retirements and post-COVID-19 burnout, which made it harder to offer intensive, individualized training. Meanwhile, an aging facility needed upgrades, but the school had only a limited budget for expanding staff or space.

Despite those challenges, NCCU perceived the moment as an opportunity to drive innovation. With $1.9 million in grant funding, nursing leadership committed to reimagining its approach to clinical preparation. The goal was to use technology to expand access, support faculty, and align with the realities of a technology-enabled healthcare workforce.

Tina Scott, DNP, director of the Experiential Learning Center, said, "Technology is threaded through healthcare now, and we as educators need to make sure we're both using it and exposing our students to it."

The Chair of the Department of Nursing, Yolanda VanRiel, PhD, summed up the bigger goal: "We are mission driven in our commitment to students, but we are also culturally relevant by making sure we speak for healthcare — for all individuals. We are really connected to our community."

*"Technology is threaded through healthcare now, and we as educators need to make sure we're both using it and exposing our students to it."*

**Tina Scott, DNP**
**Director of the**
**Experiential Learning Center**

> *"We want our students to think critically. In a real setting, they may have four or five patients. With vrClinicals, students start with one patient and progress to more complex scenarios, developing the ability to prioritize, delegate, and manage tasks in environments that closely mirror real-world care."*

**Yolanda VanRiel, PhD**
**Chair of the Department of Nursing**

# The solution: vrClinicals for Nursing — immersive, scalable, and designed for modern practice

NCCU turned to immersive technology from Wolters Kluwer and partner Laerdal Medical to graduate more-confident, better-prepared students without overburdening faculty or competing for limited clinical placements. By weaving vrClinicals for Nursing throughout the nursing curriculum, the university built a scalable, high-fidelity educational model that gives every student consistent, realistic clinical experience — before students ever set foot in a hospital.

Deciding to partner with Wolters Kluwer and Laerdal Medical was intentional. NCCU sought a solution that would not only expand training capacity but also align with its mission of equity and innovation. vrClinicals for Nursing offered a proven educational framework, adaptability to NCCU's scaffolded curriculum, and a development team open to feedback — making it a strategic fit for both short-term needs and long-term goals.

Ahmed explained: "Nursing is a hands-on profession. How do you provide hands-on experience for a large cohort of nurses if you're trying to double the nursing workforce? The only way is to use technology."

NCCU's adoption of vrClinicals for Nursing began as a pilot with students who had no prior clinical experience. The framework brought students into multipatient environments in which they could build clinical-judgment skills and practice prioritization.

Aligned with simulation-based pedagogy, vrClinicals for Nursing supports NCCU's scaffolded approach: students start with a single patient and then progress to increasingly complex, multipatient scenarios. Such evolving clinical scenarios teach prioritization, delegation, and multitasking by blending classroom content with the unpredictability of real-world care settings.

"We want them to think critically," VanRiel said. "And when you're in a real setting, you may have four or five patients."

Samantha Moyer, lead product manager at Wolters Kluwer Health, said students transitioning to practice are often shocked by the real-world workload. "We're trying to limit that shock," she said. "We want to teach them how to delegate and prioritize — how to efficiently manage their time." Learning those lessons early in their careers, Moyer noted, can reduce the burnout that can lead to turnover.

Faculty especially appreciate the way vrClinicals for Nursing prompts students to make decisions based on evolving information. Scott added, "We recognized the need for a solution that could enhance existing methods by realistically simulating patient acuity and supporting students in making critical decisions — rather than simply allowing them to check off skills."
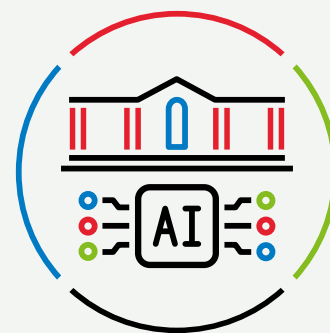
# A breakthrough with conversational AI

One of the most significant enhancements emerged when NCCU began piloting vrClinical's new conversational artificial intelligence (AI). Moving beyond drop-down menus, AI prompts students to speak naturally with virtual patients and receive realistic, contextual responses. The feature sharpens therapeutic communication while boosting engagement and confidence.

Moyer explained: "We intentionally use AI to encourage students to think critically in the moment. The conversational AI used in vrClinicals — backed by trusted, medically accurate Laerdal Medical, National League for Nursing, and Lippincott® resources — helps students practice asking and answering questions. The exercises build those critical-thinking skills by being true to practice, when you need to think on your feet."

The inclusion of conversational AI in vrClinicals was a direct result of NCCU's collaboration with Wolters Kluwer and Laerdal Medical. Faculty and student feedback during early implementation inspired the product team's decision to replace drop-down-menu responses with interactive dialogue so as to deliver more-authentic, patient-centric interactions.

Students appreciated the difference. Noa Shaylande N. Leger, a Bachelor of Science in Nursing (BSN) student at NCCU, was struck by the realism: "You talk to the patient yourself. The patient answers you, and you get to ask follow-up questions. I feel more confident now — especially when I go into a patient's room."

BSN student Elhadji Diao agreed, saying: "I've always been shy about communicating with patients. But after my second experience with vrClinicals, I did better and prioritized patients. I now feel more confident, and I'm applying that in my externship."



## NCCU: Home of the nation's first HBCU AI research institute

In December 2024, NCCU became the first HBCU to launch an institute dedicated to AI. The school's Institute for Artificial Intelligence and Emerging Research (IAIER) is the first of its kind in the United States. Backed by a $1-million grant from Google.org, Google's philanthropy arm, the program will support opportunities for 200 students to engage in AI-related fields. A 5,000-square-foot facility will house interdisciplinary courses, research, and mentorship opportunities for the NCCU community.

In August 2025, IAIER partnered with OpenAI to host the first AI summit for HBCUs. Featuring hands-on labs, career pathway workshops, and skill-building sessions, the event highlighted emerging leaders and equipped attendees to thrive in a technology-driven economy.

NCCU continues to expand industry collaborations with other organizations, including IBM, Anthropic, Cisco, Dell, and AWS Academy, bringing students more immersive AI education and research opportunities. The collaborations' goal is to enhance research and educational opportunities while positioning students — and the university — as leaders in AI innovation and access.

> *"vrClinicals helps nurses so that when they appear at clinical bedsides, they will not be afraid, they'll be prepared, and, more important, they will provide the best care for their patients."*

**Mohammed Ahmed, PhD**
**Dean of the College of Health and Sciences**

# Part of a larger digital ecosystem

vrClinicals for Nursing complements NCCU's broader technology-enabled approach, including the PULSE initiative, iPads, and other simulation resources. It also reinforces the school's commitment to equity: students who cannot tolerate the use of virtual-reality headsets can use screen-based access, which ensures no one gets left out of the critical clinical training.

Aligning vrClinicals with other technologies has bolstered NCCU's efforts to create a cohesive digital learning ecosystem — one that provides consistent skill reinforcement through flexible delivery options that meet students where they are. The result? Students build the clinical judgment they need to become confident nurses.

"vrClinicals helps nurses so that when they appear at clinical bedsides, they will not be afraid," Ahmed said. "They'll be prepared, and, more important, they will provide the best care for their patients."

# Highlights: Faculty-led implementations — built for scale

For NCCU, adopting vrClinicals for Nursing amounted to more than adding new technology. Rather, the adoption became an opportunity to reimagine how students learn, how faculty teach, and how the program could scale without sacrificing quality. Supported by grant funding, leadership redesigned learning spaces, strengthened faculty engagement, and strategically embedded simulation throughout the program. The efforts were designed to support scalability, skill building, and continued innovation.

Giving students more hands-on practice has become a central focus of the program. Simulation is woven throughout the program — from fundamentals to capstone. Such a longitudinal approach ensures that by the time students begin seeing real patients in hospital settings, they've built confidence through repeated and increasingly complex scenarios.

Today students are beginning to use vrClinicals for Nursing in their first semester, with a single patient, to learn basic communication and processes. Over time, they start simultaneously managing four patients with competing needs, prioritizing care, and delegating tasks — skills they then carry to their clinical rotations.

Internal champions of the change are leading hands-on faculty trainings to foster buy-in and consistency across courses. That peer-led approach built enthusiasm and trust in the technology.

An underutilized locker room space was reimagined as an immersive, interactive learning environment — equipped with 3D-enabled software and hardware that support both individual and group learning through sound, visuals, and haptic feedback.

"We can run 10 or 12 students at a time using headsets — far beyond what's possible in traditional clinicals," Scott said. "Instructors gain access to performance data, which enables them to tailor both their teaching and clinical experiences to better support student learning. The integration of headsets has transformed both instructional methods and student learning by creating more immersive, interactive, and engaging educational experiences."

Even while the new setup gives students more autonomy, faculty use the technology to observe performance and review data that pinpoints learning gaps. Faculty reinforce key concepts both in the classroom and during clinical experiences to support mastery.

"When students put on that headset, they take on the role of the nurse," said Scott. "This enables us to identify learning gaps and use that data to inform and enhance classroom instruction."

Students practice high-stakes scenarios without real-world consequences and then get real-time feedback that builds confidence through iteration.

"It takes practice to design your thinking skills and translate that into patient skills," said Suitte. "Putting students into a virtual world enables them to practice skills in real time — in a psychologically safe environment. And if at first they did not do it right, they can go back and attempt it again."

Moyer agreed, noting, "vrClinicals produces practice-ready nurses through repetitive practice. Students can do it again and again until it becomes muscle memory." That repetitive practice helps ensure that students will get it right at the bedside — when it matters.

Leger summed it up: "The biggest thing is, you get to make mistakes. No one's penalizing you. It's a safe place to learn, to figure things out, and then to go into clinicals more prepared not just technically but emotionally too."



*"Putting students into a virtual world enables them to practice skills in real time — in a psychologically safe environment. And if at first they did not do it right, they can go back and attempt it again."*

**Keva Suitte, MSN, RN**
**Simulation Lab Coordinator of the Department of Nursing**

## Build clinical judgment with vrClinicals for Nursing

Prepare students for the real-world pressures of nursing practice with evolving, multi-patient clinical experiences.

**Build confidence in a low-risk environment**

**Enhance communication with conversational AI**

**Overcome clinical site and faculty limitations**

**Equip students to manage larger caseloads**

# A true innovation partnership

NCCU's relationship with Wolters Kluwer goes beyond adoption. From the earliest pilot phase, faculty's and students' feedback was shared with the product development team so as to shape updates and feature enhancements and lead to the evolution from drop-down menus to conversational AI. Those changes and others improved realism and deepened engagement among students and faculty alike.

NCCU's early adoption of VR technology has furthered the school's reputation as a leader, helping attract the future generation of nurses. "Being able to integrate VR into our simulation center and classroom has been a big win for us as an HBCU and has set us apart from other schools," said Scott.

# Outcomes and early wins: Stronger skills, greater confidence, and a model for equity

The early impacts of vrClinicals for Nursing at NCCU are clear: Students are entering clinical placements and the workforce with sharper judgment, greater confidence, and readiness to practice that set them apart. and faculty are using the technology to not only enrich learning but also monitor and close skill gaps before gaps impede learning.

*NCCU Department of Nursing vrClinicals Student Data Results*
*June 2024–May 2026*

**Table 1: Cohort Participation Summary**

| Term | Cohort Type | Level | Number of Students | Clinical Experience |
|---|---|---|---|---|
| Summer 2024 | Traditional juniors | Beginner: 2 Patients | 14 | First semester, minimal or no experience |
| Summer 2024 | Accelerated seniors | Beginner: 2 Patients | 9 | Third semester, prior experience |
| Fall 2024 | Traditional seniors | Skills Blitz (Advanced Review) | 20 | Fourth semester, prior experience |
| Spring 2025 | All cohorts | Beginner (4 patients), Intermediate (3 patients), Advanced (3 or 4 patients) | 34 | Mixed levels and experience |
| **TOTAL** | | | **77** | |

**Table 2: Skill Development (Self-Reported Gains)**

| Skill Area | % of Students Reporting Improvement | Sample Feedback |
|---|---|---|
| Clinical Confidence | 85+ | "I feel more confident assessing a patient." |
| Time Management | 80 | Helped with time management before first clinical." |
| Patient Assessment | 75 | "Enhanced assessment and prioritization." |
| Communication (Therapeutic/Team) | 70 | "Improved communication and delegation." |
| Clinical Decision-Making | 65 | "Increased understanding of the why." |
| Theory-to-Practice Application | 60 | "Confirmed gaps between theory and clinical application." |

*Note: Percentages based on qualitative analysis of student reflections.*

Students who once approached clinicals with anxiety now show up prepared to manage patients, prioritize tasks, and communicate effectively. "I used to be nervous walking into a room," rising senior Leger said. "Now I know what to say, what to do. You learn the steps. And with conversational AI, it feels like a real interaction. You can follow up, ask the patient more questions, and practice being therapeutic."

"Students become able to actually go out there from Day One and take care of patients with confidence," Scott echoed.

The scaffolded, multipatient scenarios mirror the uncertainties of real-world clinical environments, which strengthens decision-making under pressure. Students begin managing just one or two virtual patients and eventually manage four who have varying levels of need. Along the way, the pressures and the interruptions increase too — just like in a real hospital.

Meanwhile, the analytics in vrClinicals and close integration with the curriculum constantly validate classroom assessments so that students get the targeted remediation they may need. Scott explained, "Faculty are able to go back over the material or look at other testing or teaching strategies that would better close gaps."

That kind of data-driven teaching and a forward-looking technology strategy have enhanced NCCU's position as an innovative HBCU and a leader in nursing education.

"It's very important as an HBCU to be a trendsetter," Ahmed said. "Our community deserves to have that leading edge of technology delivered to it." He sees NCCU's simulation strategy as both a solution for today's challenges and an investment in the future of nursing. "The future of technology lies in healthcare," he said. "That's why it's important that we partner together. Technological partnerships like these are the only scalable ways to prepare more nurses while ensuring consistent quality."



*"You talk to the patient yourself. The patient answers you, and you get to ask follow-up questions. I feel more confident now — especially when I go into a patient's room."*

**Noa Shaylande N. Leger
BSN student**

# Conversational AI prepares nursing students for real-world patient conversations

*"I've always been shy about communicating with patients. But after my second experience with vrClinicals, I did better and was able to prioritize patients. I now feel more confident, and I'm applying that in my externship."*

**Elhadji Diao**
**BSN student**

**Student Nurse (Eli):**
*Hello, my name is Eli, I'll be your nurse today. How are you feeling?*

**AI Patient:**
*Hi Eli, honestly, I've been really short of breath the last couple of days.*

**Student Nurse (Eli):**
*I'm sorry to hear that. Can you tell me when the shortness of breath usually happens? For example, does it get worse when you're walking or lying down?*

**AI Patient:**
*It's definitely worse when I climb stairs. I also notice it more at night.*

**Student Nurse (Eli):**
*Thank you, that's helpful. Do you have any pain in your chest, or swelling in your legs or ankles?*

**AI Patient:**
*My ankles have been pretty swollen, yes.*

**Student Nurse (Eli):**
*Based on your symptoms, I'll recommend some immediate checks and alert the provider. Thank you for sharing this with me.*

# What's next: Expanding reach, growing impact, and leading by example

NCCU's success with vrClinicals for Nursing is only the beginning. Building on early wins, the university is charting a bold path to expand simulation, share best practices, and continue shaping the future of nursing education. The school's vision is both ambitious and pragmatic: building on what works while extending the benefits of vrClinicals for Nursing to more learners and more communities.

Faculty plan to integrate vrClinicals for Nursing into the areas of pediatrics, mental health, and community health so as to ensure that every student experiences a broad range of clinical scenarios. vrClinicals gives students access to clinical scenarios that might never occur during a traditional clinical placement — from uncommon conditions to complex patient interactions.

"We want our students to have the confidence to walk into a hospital setting, a community setting, any setting — and be able to take care of patients in that environment," VanRiel said.

That same spirit extends beyond NCCU's Research Triangle neighborhood. NCCU's nursing leadership intends to share lessons learned with other HBCUs and nursing programs around the country as demonstrations of the ways immersive simulation can make nursing education more equitable and scalable — without compromising quality.

Faculty will increase its use of vrClinicals' analytics to further personalize learning, identify student performance trends, and drive curriculum updates. Those uses will ensure the program stays responsive to evolving student needs and the profession's demands.

NCCU's partnership with Wolters Kluwer will remain pivotal to the school's innovation strategy, giving faculty and students voices in future product enhancements and ensuring that vrClinicals for Nursing continues to support evolving educational needs.

For Ahmed, it's all about developing high-quality nursing graduates who are ready to serve their communities. "vrClinicals helps ensure that nurses — wherever they're trained — get the same exposure, the same preparation, the same quality," he said. "That's why it's important that we partner together: to produce the best product possible for patients."

> "vrClinicals helps ensure that nurses — wherever they're trained — get the same exposure, the same preparation, the same quality," he said. "That's why it's important that we partner with Wolters Kluwer: to produce the best outcomes possible for patients."

**Mohammed Ahmed, PhD**
**Dean of the College of Health and Sciences**

➡️ Learn how vrClinicals for Nursing can prepare your students for real-world patient care with confidence. Contact us today.

Visit: wltrsklwr.com/vrClinicalsforNursing

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