BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Nebraska	)	
Public Service Commission,	)	
on its own motion, to explore	)	Application No. NUSF-150
Additional funding opportunities	)	
In the Telehealth Program	)	

COMMENTS OF UNMC/iEXCEL

iEXCEL/UNMC submits these comments in response to the Order Opening Docket, Seeking Comments, and Setting Workshop entered by the Nebraska Public Service Commission (the "Commission") in this docket on December 16, 2025 (the "NUSF-150 Order").

iEXCEL/UNMC appreciates the opportunity to provide comments to the Commission and strongly supports the Commission's efforts to establish and fund the Telehealth Pilot Program

INTRODUCTION

iEXCEL/UNMC is a designated Nebraska Board of Regents Center of Excellence and is headquartered in the Dr. Edwin G. & Dorothy Balbach Davis Global Center on the UNMC campus. This 192,000 sq. ft. state-of-the art health professions simulation training center provides a venue where all healthcare professionals at every level of training, as well as in all disciplines, can learn and practice patient care skills through the adoption of experiential and immersive technologies.

COMMENTS

A. Telehealth Pilot Program

In NUSF-150, the "Commission seeks comment on whether to establish a Telehealth Pilot Program designed to bring the benefits of innovative technologies, educational opportunities, and telemedicine services to rural areas of the state. The Pilot Program would be designed to provide funding for a limited period of time for the connection of dedicated broadband networks and the

advanced services provided over such networks for special projects."

iEXCEL/UNMC seeks to answer the call by the Nebraska Public Service Commission to participate in the Telehealth Pilot Program based on a multi-year vision to expand the iEXCEL/UNMC experiential and immersive training model to remote and rural institutions and destinations.

By partnering with Nebraska broadband service providers, rural healthcare and training institutions, cybersecurity providers, and technology-application contributors, iEXCEL/UNMC proposes to build a statewide Hub & Spoke system for distributed learning and advanced healthcare.

Immersive & Experiential Technology

The broader concept for this initiative is to develop a statewide system of highly secure, interconnected, interprofessional, and experiential health-professions education training sites situated geographically across Nebraska. This system would promote the adoption of advanced technologies that support tele-simulation, tele-proctoring, and ultimately advanced tele-health. Each site would have the capability of receiving high density imagery across distance and in real time using medical modeling, simulation, and visualization technologies. The goal is to ensure the delivery of precision medical care skills by practicing and perfecting complex patient care scenarios.

To optimize the immersive training and proctoring experiences, it is proposed that content transmitted during the pilot period include advanced training applications such as:

1. 3D imagery via virtual reality (VR) or augmented reality (AR) headsets
2. Holographic imagery & displays
3. Interactive Digital & 3D Computer-Aided Design (CAD) Walls

With all applications, the Davis Global Center at UNMC in Omaha will serve as a central hub connecting remote partner sites across Nebraska. The goal of the collaborative effort is to foster tele-simulation and tele-proctoring through the use of a robust and highly secure network that provides advanced telehealth capabilities across the state of Nebraska.

Hub & Spoke Design

The envisioned iEXCEL Hub & Spoke design will have the capability, performance, and

security to transmit high-density simulation-based educational and healthcare content remotely in real time. Successfully delivered end-to-end pathways will use a combination of university infrastructure and dedicated commercial fiber segments, ultimately supporting cloud-based instructional technologies. Therefore, partnerships with rural fiber carriers and broadband providers are essential for the delivery of application-based data for this pilot.

Endpoints for the iEXCEL Hub & Spoke delivery of simulation training are imagined to be learning institutions, critical access hospitals, and other healthcare delivery venues located throughout Nebraska. Measures of the network's success will include high reliability and low latency, capability to transmit complex holographic, VR/AR, and 3D CAD imagery, robust cybersecurity aligned with university standards, demonstrated effectiveness in the support for clinical training objectives, and strong multi-agency collaboration demonstrating a scalable statewide model.

Rural Healthcare Objectives & Outcomes

We applaud the Commission for its commitment to bridging urban and rural healthcare and believe outcomes of a successfully executed project can result in a combination of the following outcomes.

1. Promoting evidence-based, measurable training interventions to improve prevention and chronic disease management.
2. Providing training and technical assistance for the development and adoption of technology-enabled solutions that improve training and care delivery in rural areas, including remote monitoring, artificial intelligence, and other advanced technologies.
3. Recruiting and retaining clinical workforce talent to rural areas, with commitments to serving rural communities, through accessibility of high-quality training.
4. Providing technical assistance, software, and hardware for significant information technology advances designed to improve access, efficiency, and enhanced cybersecurity capability development, with the goal of improving patient health outcomes.
5. Assisting rural communities by identifying needed preventative, ambulatory, pre-hospital, emergency, acute inpatient care, outpatient care, and post-acute care programs.
6. Developing projects that support innovative models of training and care which promote sustainable access to high quality rural healthcare services.

B. Expansion of the Defined Categories of Health Care Providers.

In NUSF-150, the Commission "seek comment on whether to expand the list of defined categories of health care providers or facilities for which advanced telecommunications service providers may seek support from our Telehealth program. The Commission's list of defined categories stems, in part, from the definitions in the 1996 Act and FCC Orders implementing the Rural Health Care Program." iEXCEL's efforts to create a statewide Hub & Spoke network align closely with the definitions in the 1996 Act and FCC Orders and categories as defined in the Rural Health Care Program, and may include:

1. Post-secondary Education (i.e. health care instruction, STEM workforce, etc.)
2. Community Health Centers (i.e. public health education (for indigenous and migrant care))
3. Local Health Care Agencies (i.e. to include emergency response agencies)
4. Community Mental Health Centers (i.e. education of staff by subject matter experts)
5. Not-for-Profit Hospitals (i.e. Nebraska critical care hospitals)
6. Rural Health Care Clinics (i.e. tele-simulation, tele-proctoring, tele-consulting)

CONCLUSION

For the reasons stated in this Comment, iEXCEL/UNMC supports the consideration of funding innovative technologies to enhance rural educational and telemedicine services across the state.

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Submitted electronically

UNMC iEXCEL

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Remote & Distributed Learning
Timely Access to Medical Training & Care

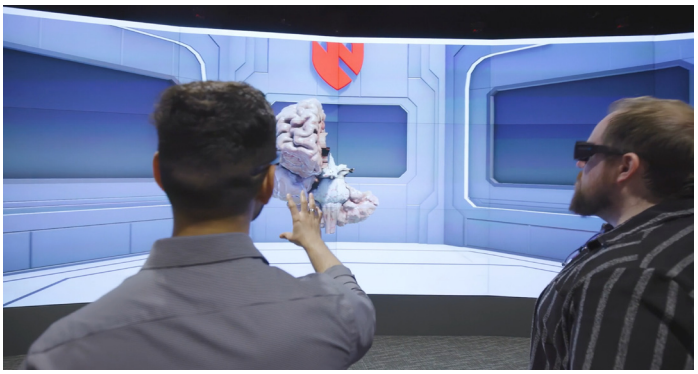
Introduction:

A Statewide Connectivity Collaborative Project at UNMC's iEXCEL in the Davis Global Center in Omaha, NE, envisions equitable access to experiential and immersive learning for healthcare professionals across the state. Through immediate availability to interactive three-dimensional (3D) training modules and holographic, or real clinical subject matter experts, health professions training can potentially be provided or accessed at ANY time by any health care provider anywhere in a region, state or country.

With medical specialists and sub-specialists mostly working in urban communities, and rural areas experiencing a shortage of healthcare providers, the rural-urban gap in many states in the United States of American is widening. Practicing health care professionals and their critical support teams at rural sites are challenged with keeping up to date with knowledge and skills, as well as accessing advanced technologies necessary for provision of high-quality patient care. For example, across the 500-mile-wide state of Nebraska, over 90% of emergency responders are voluntary with limited access to skills training and/or funding to keep current. These factors can result in patients from rural communities being transported unnecessarily to critical access and/or tertiary care hospitals—sometimes hundreds of miles from home. Referrals are also frequent due to health care professionals in rural communities reporting feeling unprepared to handle complex medical situations. This is often attributed to lack of confidence as much as tied to actual competence. Lives can be lost due to lack of timely support combined with the necessary upskilling in clinical and/or technical expertise.

"Real Time" Access to Health Care Training across Distance

Just-in-time rural and remote simulation requires highly secure, high-speed (5G and above!) communication networks that can convey 3D clinical and reconstructed images in the form of imagery and/or holographic tele-presence across distance. For example, medical subject matter experts could be routinely "called in" for consultation, and robotic surgery can now be conducted across distance. Additionally, intelligent digital twins of hospital equipment and technology can be transmitted in real time. Patient anatomy and physiology can be conveyed in 3D for a second opinion and on the spot guidance through a procedure can be made possible. Training modules of specific skills such as donning and doffing of infection protective gear, management of airways, complex obstetric deliveries or lifesaving in field trauma care can be supplied on an as needed basis from an academic medical center. However, at this moment in the development and availability of communication technology, many countries, states and regions do not have the infrastructure to handle the transmission of high-density imagery in a timely or reliable manner to remote and rural areas.

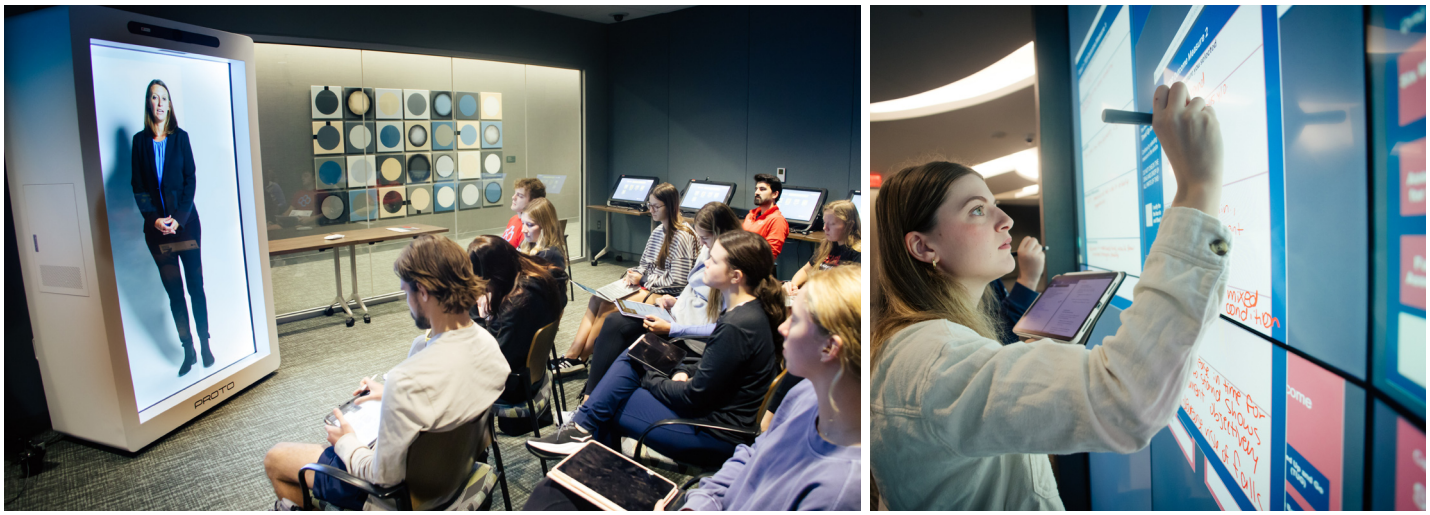


3D model of brain on CAD Wall manipulated remotely by multiple learners

Ensuring Health Security & Bio-Preparedness
In an era of new kinds of threats, including biological, chemical and radiologic warfare, the ability to provide timely support and offer ongoing preparation for the health care work force - including those in critical access hospitals, rural clinics and front-line emergency responders is crucial. Each region of a country must deliberately ensure health care professionals are fully prepared for rapid response to emerging pandemics as well as natural and human-caused disasters. During times of threat, infectious disease and trauma specialists should be "on hand" virtually to broadcast and convey vital information to health care providers about the nature, transmission, diagnosis and treatment of emerging pathogens. Supplementing this consultancy role by using 3D holographic imagery from health care simulation centers or hospitals would provide much needed support, especially if the specialized training was made immediately available through on-the-spot tele simulation and tele mentoring.

The Nebraska Statewide Connectivity Project

Stemming from experiences learned during the COVID pandemic, this ambitious project envisions a model for equitable statewide access to experiential and immersive learning. The project is based on the convergence of three distinct technologies—holographic imagery, head-mounted displays and 3D CAD Walls—that, when uniquely bundled together, offer tremendous promise for access to the same experiential and immersive learning capabilities provided by iEXCEL, situated on a health care campus in Omaha. Early realization of this vision in the form of pilot projects is taking Nebraska to the forefront of remote and distributed health care training and delivery. Thus, leading to an expanded use of modeling and simulation beyond health care including virtual statewide education, defense applications and other commercial uses, including agriculture and industry.



Students view holographic lecture and complete iwall activity across 200 miles

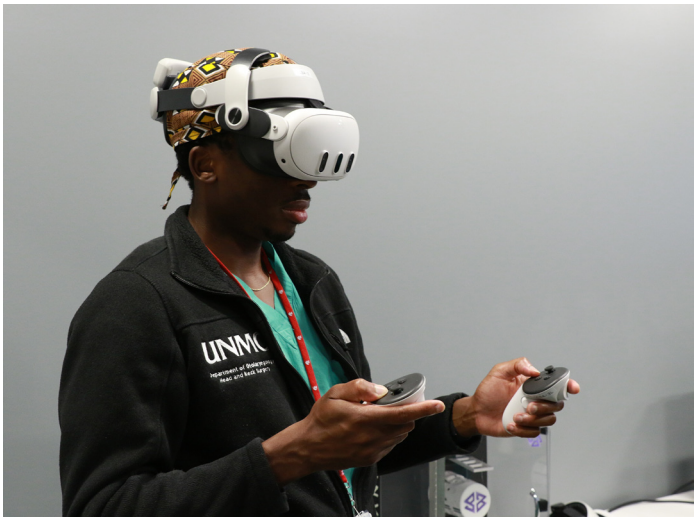
Cybersecurity & Encryption Technologies

A critical technology requirement in the broadband connectivity bundle, which is crucial for the transmission of experiential and immersive learning content, relates to the importance of network security. Although there is an inherent level of security in any commercial fiber network, it will become increasingly important to employ advanced cybersecurity and encryption protocols to protect the large amount of commerce, not to mention protect patient-related data, that will be moved throughout this large broadband network. The scope, pace and sophistication of malicious cyberspace activity continue to rise globally, and the growing dependence on the cyberspace domain for nearly every essential civilian and military function makes this an urgent issue that must be addressed in setting up the Nebraska Model 0f "just-in-time," remote and distributed training. Ultimately, rural health care practitioners and even some caregivers would have ready access to ultramodern training and upskilling through a network of shared, immersive and virtual experiences where information can be presented to users through generative artificial intelligence.

Summary

Remote & Distributed Access to Experiential & Immersive Training

Narrowing the rural-urban digital divide, by amplifying remote and distributed learning and training through the availability of a statewide network that provides all health care professionals, as well as students, equitable access, will undoubtably save lives. Asynchronous just-in-time, evidence-based and innovative, mobile education for keeping up to date, coupled with the ability to share 3D patient imagery will improve time to diagnosis, assist with accurate diagnostics and allow procedures to be carried out without delay. Through the ability to access immediate mentoring, providers can remain up to date through continuing education and certification. A secondary, but important, outcome is that this highly secure network will assist with attracting and retaining health care professionals in rural areas. This human and technological capability must be taken to them where they live and work, thereby aiding retention by reducing stress and increasing morale—critical factors that are often overlooked as countries strive to recruit and retain their brightest and best healthcare providers in rural regions.



Surgical preparation using head-mounted display to analyze skull-base anatomy

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