



Introducing MCNC and NCREN

MCNC is a broadband non-profit organization that operates the North Carolina Research and Education Network. This world-class, 2,600-mile fiber network and MCNC's operational expertise provides a strong foundation for improving the delivery of health care to citizens by supporting the North Carolina Telehealth Network (NCTN).

Bringing life to the North Carolina Telehealth Network

The NCTN supplies the critical broadband infrastructure health care providers need to effectively deliver their services. This dedicated network for public and non-profit health care providers leverages the architectures of NCREN and the N.C. Department of Information Technology to utilize leading-edge broadband technologies and network services that scale to connect customer locations to a resilient fiber backbone.

Broadband for health and care in North Carolina

Many medical professionals in North Carolina envision the state as a leader in the adoption of electronic medical records, telemedicine-enabled health services, and seamless health information exchanges. To help achieve this, MCNC provides a fully-managed suite of network services including installation, 24x7x365 customer support, maintenance, proactive fault and performance management, and real-time reporting of service-level metrics. In collaboration with the N.C. Department of Information Technology and other private telecom carriers, these services continue to meet or exceed the requirements of the NCTN at affordable costs.

Substantial savings and eligibility

The NCTN provides permanent 65 percent discounts on subscribed network services for eligible providers through the FCC's Healthcare Connect Fund. Services offered under the NCTN range from 10 Mbps to 2 Gbps, and the yearly average savings for eligible subscribers ranges from \$12,000 to \$60,000, respectively.

Public and non-profit health care organizations are eligible for FCC program discounts. There also are options for savings by ineligible sites. Health care sites that are eligible for the FCC's program discounts range from small community health clinics to large hospitals. Additionally, administrative and data center locations that support these sites are also eligible. A consortium (such as NCTN) must have at least 50 percent rural sites among all eligible sites in order to obtain discounts through the program.

Successful public-private partnerships

NCTN is a consortium of public and non-profit health care providers. Cabarrus Health Alliance serves as the fiscal agent and administrator. Kirby Information Management Consulting, LLC provides project consulting services and oversight of the program. North Carolina Institute for Public Health and UNC Chapel Hill Gillings School of Global Public Health provide recruitment and customer relations. MCNC and the N.C. Department of Information Technology provide connectivity services and technical support. In addition, the NCTN works with multiple private service providers to supply last-mile transport services. Other collaborators include North Carolina Association of Local Health Directors, North Carolina Hospital Association, North Carolina Division of Public Health, Golden LEAF Foundation, North Carolina Alliance of Public Health Agencies, and the North Carolina Community Health Center Association.

MCNC remains committed to Connecting North Carolina's Future Today.

Phases of NCTN

Phase 1

NCTN-PH phase began with two recruiting rounds before the network went operational in 2010. It included public health, free clinics and some community health centers.

Phase 2

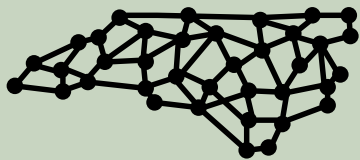
NCTN-H phase began with recruitment of non-profit hospitals and went operational in 2011. Vidant Medical Center was the first connected that year.

Phase 3

NCTN Extension phase focused on broadening services for existing NCTN-H and NCTN-PH sites as well as expanding the network by adding eligible sites.

Phase 4

This permanent phase leverages the FCC's Healthcare Connect Fund to provide the 65% discounts to eligible health care providers. Funding from the USF (Universal Services Fund) is on-going and not affected by Congressional allocation.



**NORTH
CAROLINA
TELEHEALTH
NETWORK
NCTN**



**CABARRUS
HEALTH
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Questions?

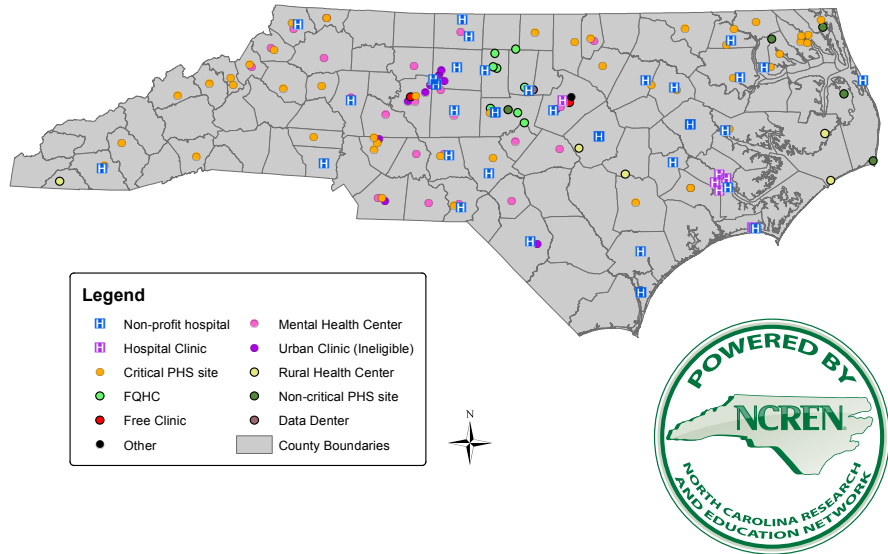
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For technical assistance or service issues,
contact ITS Service Desk at (800)722.3946.

North Carolina Telehealth Network Sites



NCTN design points and applications

The NCTN is designed to be low cost through volume purchases and discounts as well as promote communications among health care stakeholders as well as user collaboration in building and operating the network. Key applications include Health Information Exchanges, Electronic Health Records (especially for remote hosting / SaaS models through an Application Service Provider), tele-education, and videoconferencing. Telehealth applications include but are not limited to live medical imaging, echocardiograms, telepsychiatry, orthopedics, intensive care monitoring, CT scans, and storage and forwarding capabilities for MRI radiographs. VOIP capabilities also are offered for subscribers with several sites.

Benefits and features

The NCTN is a dedicated network for health care providers with transparent access to the Internet and Internet2. "Dedicated" means communications between NCTN subscribers will not traverse the commodity Internet and be exposed to the delays, reliability issues, and extra security risks. This architecture allows subscribers to simultaneously run at maximum levels of their service capacity without degradation. These features, in combination with administrative and other technical facilities, are designed to provide users with a fast, highly-efficient network at vital dependability levels.

Looking ahead with NCTN

Technology is transforming health care and driving innovation through robust broadband connections. As modern health care depends more and more on high-speed broadband connectivity for better access to diagnose, care, and research the next discovery of cures, the NCTN will serve the high-bandwidth, low-latency needs of health practitioners and researchers in North Carolina, and MCNC will continue to expand offerings to serve the needs of the health care community for years to come.

Note: The NCTN is expected to see continued growth. This document was created January 2016.