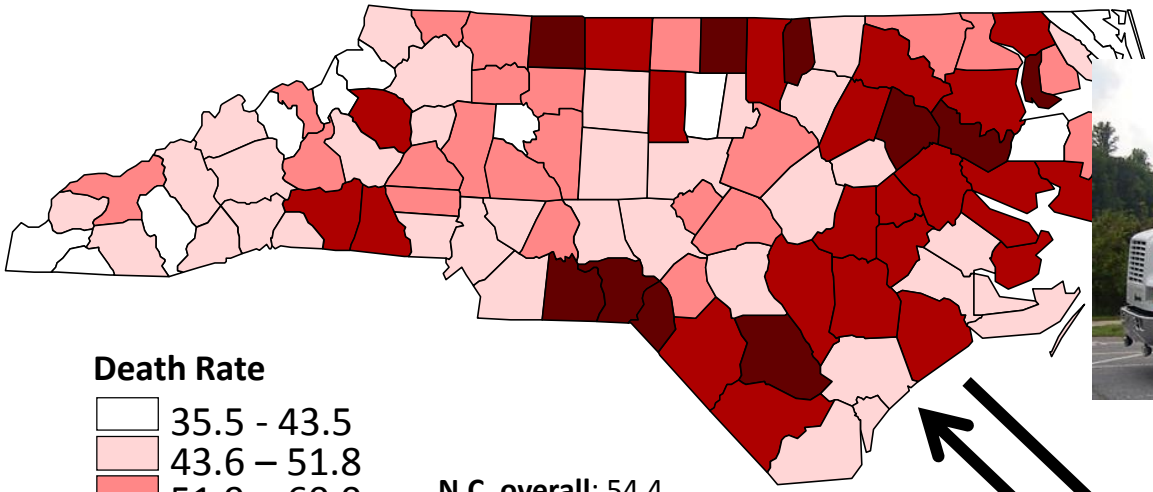
Wake Forest®
Baptist Medical Center

Telestroke Update

Amy K. Guzik, MD
Assistant Professor, Neurology
Director, Wake Forest Baptist Telestroke Network



Death Rate

- 35.5 - 43.5
- 43.6 – 51.8
- 51.9 – 60.0
- 60.1 – 71.5
- 71.6 – 98.9

N.C. overall: 54.4

U.S. (2002-06): 49.8

Stroke: ICD-10 codes I60-I69.
Rates per 100,000 population, age-adjusted to the 2000 U.S. standard population.
N.C. Data Source: N.C. Center for Health Statistics. North Carolina Vital Statistics,
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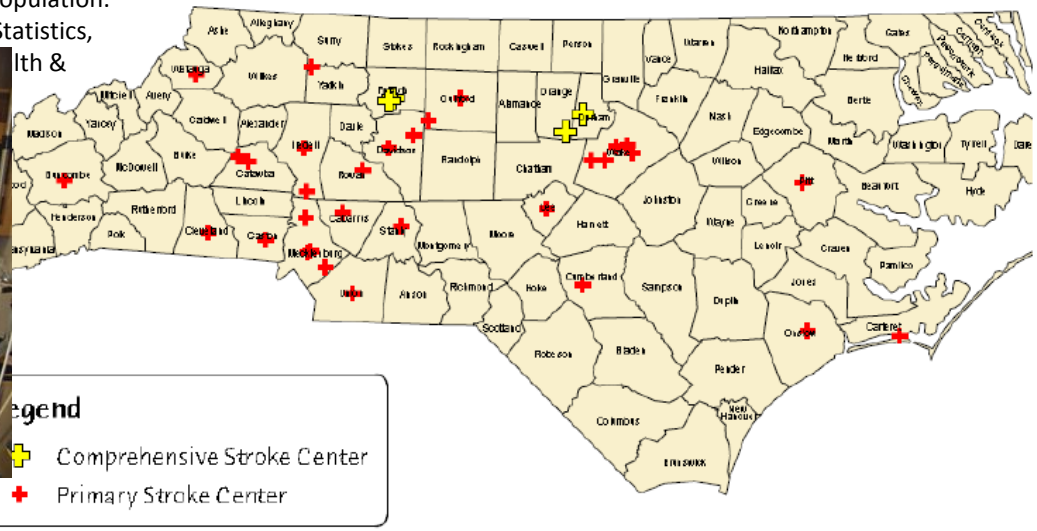
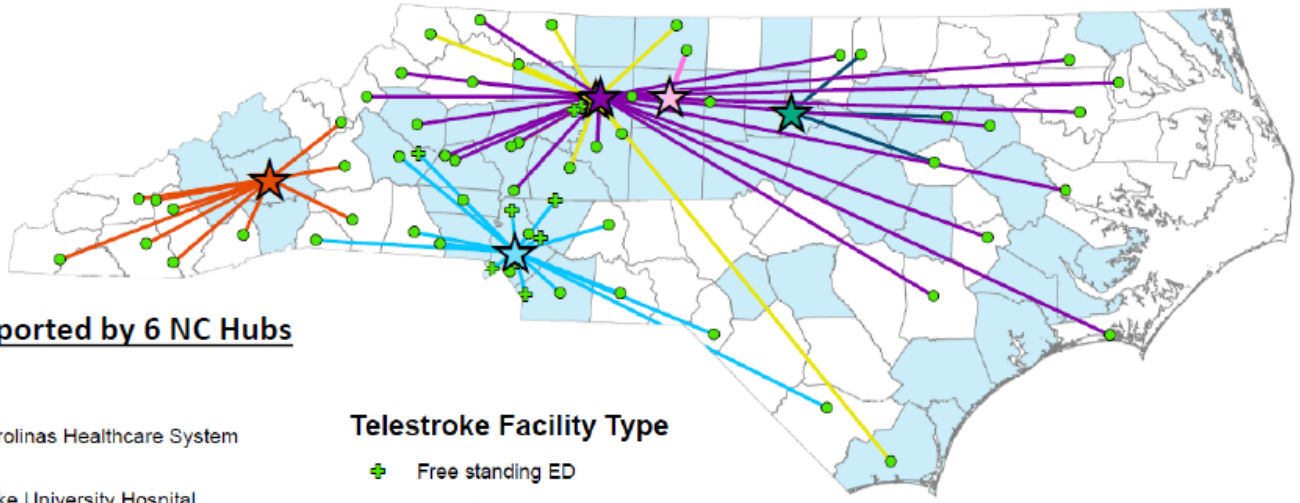


NC Telestroke Landscape

NC Telestroke Sites, 2016

Hopsitals and Free-Standing Emergency Departments (EDs) with Telestroke Services



68 Telestroke Spokes supported by 6 NC Hubs

# NC Spokes	Hubs
20	Carolinas Healthcare System
3 (+2 VA)	Duke University Hospital
12	Mission Memorial Campus
10 (+4 VA)	Novant Forsyth Medical Center
3	The Moses H Cone Memorial Hospital
20	Wake Forest Baptist Medical Center

Telestroke Facility Type

- Free standing ED
- Hospital

County

- non-Metropolitan
- Metropolitan

Sources:
Hub/Spokes: Previous Telestroke Maps and web search & list compiled by Anna Bess Brown, NC DHHS
Metro/non-Metro County Designation: obtained from The US Office of Management and Budget, 2016.
Map created by Brittany Bogle and Wayne Rosamond, UNC. Contact: bbogle@email.unc.edu

Wake Forest Telestroke Network

Our Model

- Regional Model- Hub and Spoke: Preferential bed placement, rapid and facilitated transfer

- State Model- Contracted services: Fee for service, provide support for distant health systems- Wake Med & Vidant/ ECU.

WFBH Telestroke Services

- Initial Network Hospital live – 12/09
- Through 2/2018 – 4664 network activations
- As of 5/2016, 20 active, stroke capable sites:

Lexington Medical Center◆
Allegheny Memorial
Carteret General ◆
Davie Medical Center
Lake Norman Regional ◆
UNC-Lenoir Memorial◆
Watauga Medical Center◆
Vidant Beaufort◆
Vidant Edgecombe◆
Vidant Chowan°

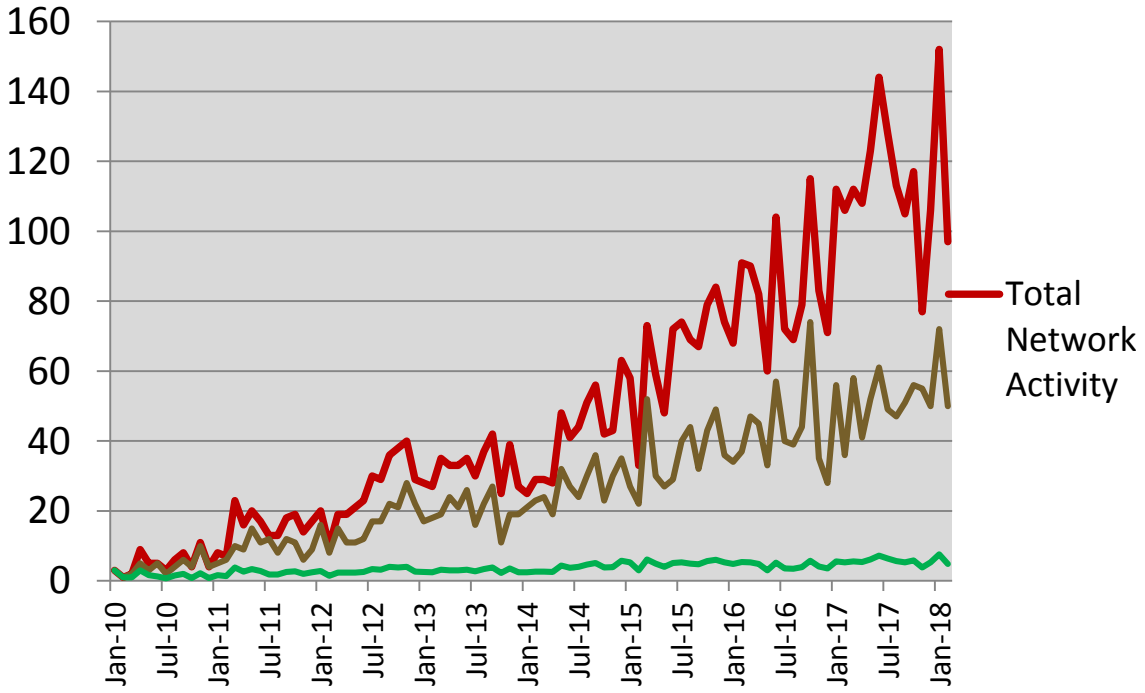
Wilkes Medical Center◆
Caldwell Memorial
Frye Regional ◆
Catawba Valley ◆
Iredell Memorial ◆
Granville Medical Center (Wake Med TSN)
Cannon Memorial
Vidant- Duplin◆
Vidant Bertie°
Vidant Roanoke-Chowan°

◆ JC PSC ◆JC PSC pending °JC ASR pending

We've been busy!

	Network Activation	Robot Consult	Remained at NH	Transferred	# tPA administered
TOTAL	**4664**	**2546**	**1573**	**947**	**1010**
TOTAL %		***55%***	***63%***	***37%***	***40%***
* Jan 2010 – Feb 2018					

- Up to 150 activations/ month



Response Time Goals

- Page to physician call back <5 minutes
- Page to beam-in < 15 minutes
- Consult length < 30 minutes
- Consult note signed within 2 hours

All cases with page to call back time >5 minutes and page to beam-in time > 20 minutes are reviewed with the provider

Network Response Times

Metric	Mean	Median
2014 Page-to-beam-in	13:00	11:00
2015 Page-to-beam-in	12:18	11:00
2016 Page-to-beam-in	11:27	10:00
2017 Page-to-beam-in	11:08	10:00
2018 Page-to-beam-in	10:39 ↓	10:00
2015 Consult Length	19:30	18:33
2016 Consult Length	18:22	17:00
2017 Consult Length	16:56	16:00
2018 Consult Length	15:34 ↓	15:00

Added benefits- sites and system

THE JOINT COMMISSION
NATIONAL QUALITY APPROVAL

American Heart Association
American Stroke Association
CERTIFIED
Meets standards for
Primary Stroke Center

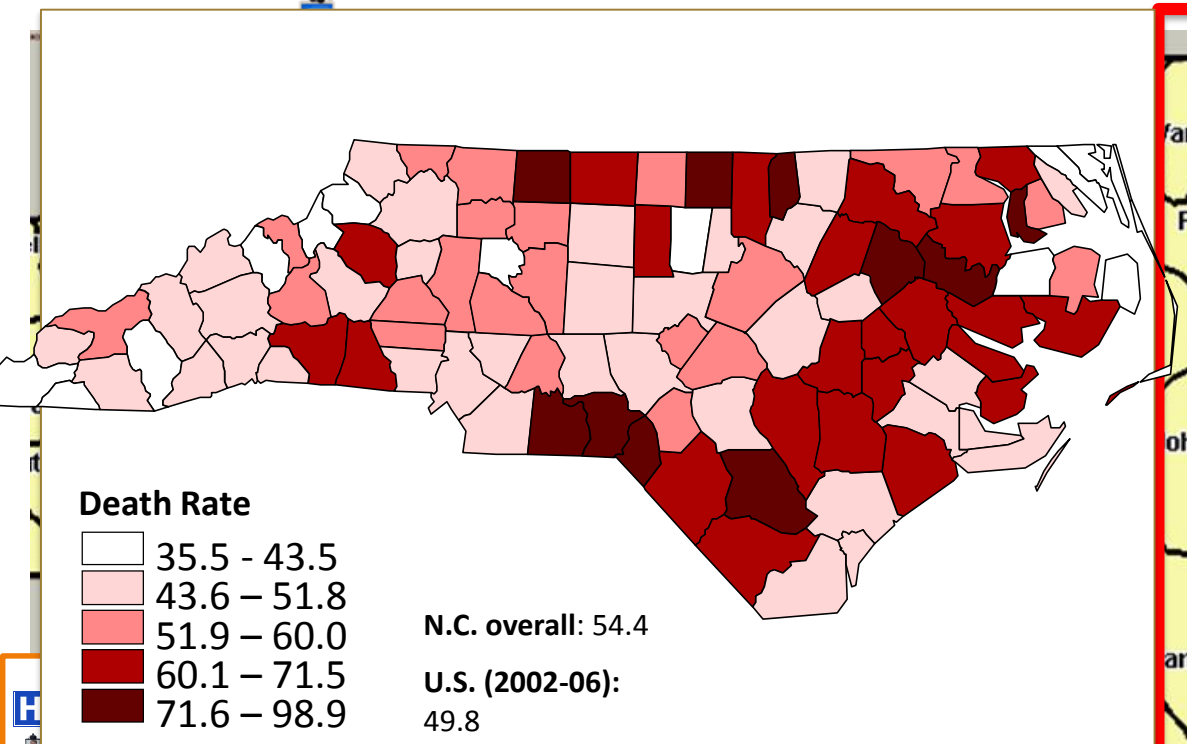
Health System Partnership

Wake Forest™ Baptist Medical Center

VIDANT HEALTH™

- Telestroke 24/7
- Commitment to Stroke Care
  - 24/17 IR capable
  - Transfer protocols
- Dedication to Data Collection
- Education/ Quarterly Reviews
  - Standardization

Eastern NC Network



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lume 2: Leading Causes of Death, 2008. Raleigh, N.C.: N.C. Dept of Health &
uman Services; 2009. U.S. Data Source: Compressed Mortality File,
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Growth of ENC Network

	2016 Avg/ Month	2017 Avg/ Month	2018 Avg/ Month
Activations	20	26	32
Consultations	8	9	14
tPA recommendation	4	5	8
tPA given	3	4	8
	2016 Total	2017 Total	2018 Total *proj
VMC transfers	40 (62)	64(97)	113
Thrombectomy	10 (13)	11 (19)	27

Stroke Certification across the system

Vidant Medical Center

Beaufort

Duplin

Edgecombe

Bertie

Chowan

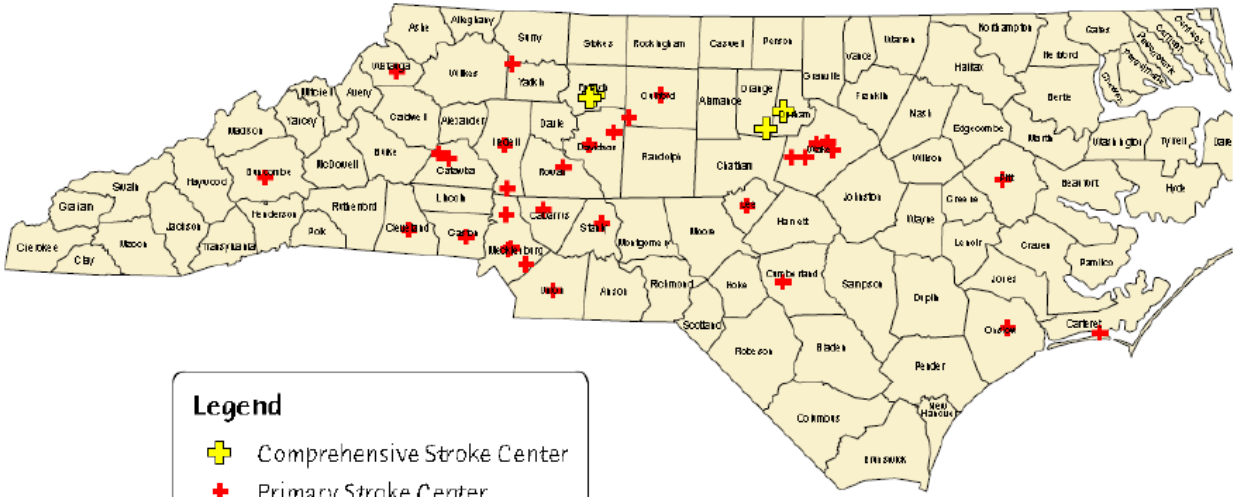
Roanoke-Chowan

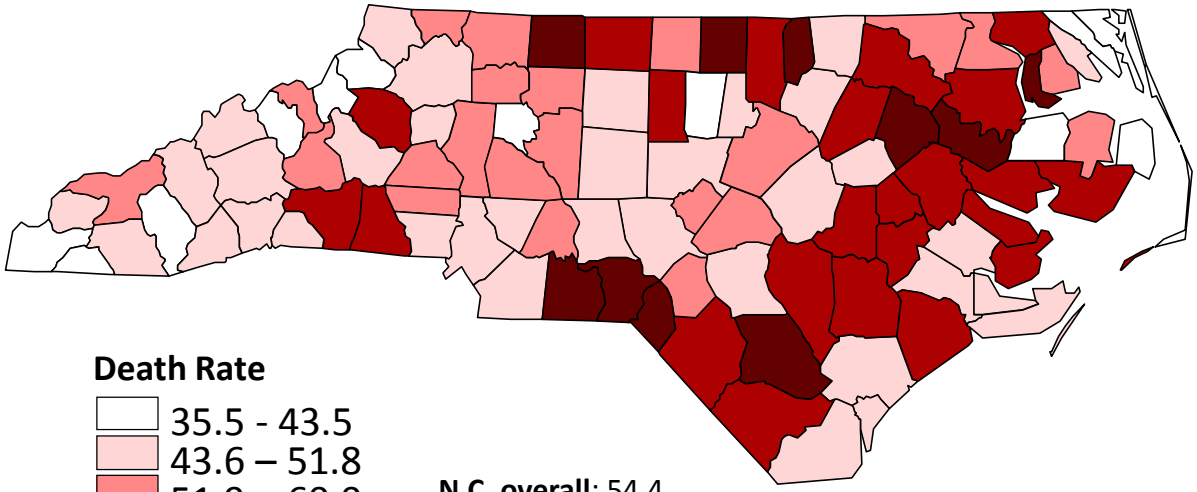
The Joint Commission

American Heart Association

American Stroke Association

STROKE CERTIFICATION





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Wake Forest™ Baptist Medical Center

Carteret HEALTH CARE

Iredell HEALTH SYSTEM

Wake Forest® Baptist Health
Lexington Medical Center

CATAWBA VALLEY MEDICAL CENTER

CALDWELL
UNC HEALTH CARE

ALLEGHANY MEMORIAL HOSPITAL

Frye Regional Medical Center

Lenoir Memorial Hospital

WakeMed

GHS

APPALACHIAN Regional Healthcare System

LAKE NORMAN REGIONAL MEDICAL CENTER

Wake Forest® Baptist Health
Davie Hospital

VIDANT HEALTH™

Wake Forest® Baptist Health
Wilkes Medical Center

JLOC HHS Telehealth Bill as released on April 10, 2018

1. Draft of North Carolina Telemedicine Practice Act. See: https://www.ncleg.net/documentsites/committees/JLOCHHS/Final%20Reports%20to%20the%20NCGA%20from%20Oversight%20Committee/2018%20Joint%20Legislative%20Oversight%20Final%20Report.pdf
2. Uses HRSA definition of telehealth and defines imaging under store and forward broadly.
3. Opens telehealth to all licensed providers
4. Outlines informed consent, HIPAA, and standard of care
5. Chooses to study (by 9/1/19) telehealth reimbursement for private payers and state's policy
6. Puts DHHS in charge of broadband connectivity and ties in HIE
7. Puts DHHS and NC Institute of Medicine in charge of quality and performance metrics
8. Puts DHHS, JLOC and Fiscal Research in charge of recommending licensing, credentialing and prescribing standards for providers

JLOC Telehealth Bill - Definitions

"**§ 90-21.131. Definitions.**

The following definitions apply in this Article:

(1) Business associate. – As defined in 45 CFR § 160.103.

(2) Business associate contract. – As defined in 45 C.F.R. § 160.103

(3) Covered Entity. – As defined in 45 C.F.R. § 160.103.

(4) Department. – The North Carolina Department of Health and Human Services.

(5) HIE Network. – As defined in G.S. 90-414.3(8).

(6) In-home monitoring. – The use of a non-portable medical device or equipment, in combination with an internet connection, to collect and store vital signs, or other health information, and transmit it to a healthcare provider.

(7) Protected health information. – As defined in 45 CFR 160.103.

(8) Remote patient monitoring. – The use of a portable medical device, smart phone and dedicated application software, portable monitoring sensor, or other wearable technology, in combination with an internet connection, to collect and store vital signs or other health information and transmit it to a healthcare provider.

Comments – No suggested changes

JLOC Telehealth Bill – Definitions continued; providers

(9) Store-and-forward imaging. – The acquisition and storing of clinical data, including images, sound, or video, that is asynchronously transmitted to another site for clinical evaluation.

(10) Telemedicine or telehealth. – The use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration. Technologies include video conferencing, the internet, store-and-forward imaging, streaming media, terrestrial and wireless communications, remote patient monitoring, and in-home monitoring. Telemedicine or telehealth does not include the provision of healthcare services through audio-only telephone or teleconference, email, or facsimile.

"**§ 90-21.132. Practice of telemedicine.**

Any individual licensed as a healthcare provider in the State of North Carolina under Chapter 90 of the General Statutes may provide healthcare services, consistent with the provider's licensed scope of practice, via telemedicine to any individual located in the State of North Carolina.

- Need to add eConsults and eVisits (online evaluation and management) to definition or Store and Forward Imaging (part 9) or elsewhere to make sure it is covered
- **90-21.132 Providers** - Remove limitation that patient must be located in NC as there are circumstances where NC providers' may not be in NC;
- Make sure that providers are not limited in providing care
- NCHA will check other states' laws

JLOC Telehealth Bill – Informed Consent

"**§ 90-21.133. Informed consent.**

(a) Before a healthcare provider delivers healthcare via telemedicine, the healthcare provider shall obtain written or verbal informed consent from the patient. If the consent is written, a copy shall be placed in the patient's medical record. If the consent is obtained verbally, a notation shall be made in the patient's medical record.

(b) Consent to receive healthcare services via telemedicine is informed only if all of the following conditions are satisfied:

(1) The patient has been informed of his or her rights when receiving telemedicine treatment, including the right to stop or refuse treatment.

(2) The patient has been informed of his or her own responsibilities when receiving telemedicine treatment.

(3) The telemedicine provider has established a formal complaint or grievance process to resolve any potential ethical concerns or issues that might arise as a result of practicing telemedicine, and the patient has been informed of that process.

(4) A description of the potential benefits, constraints, and risks of telemedicine has been provided to the patient.

(5) The patient has been informed of what will happen in the case of technology or equipment failures during telemedicine sessions and a contingency plan has been developed and communicated to the patient.

(6) The telemedicine provider has made a determination that the patient is comfortable operating the technology being used to deliver health care services via telemedicine.

- **90-21.133 Consent –** Concerned about how this law would impact care in acute setting; language needs to recognize that if consent is obtained by providers in another way, then it should also apply to care provided by telehealth
- NCHA will check other states' laws
- For part b, sections 1-6, these rules seem more applicable to an institution, not at the individual encounter level. Should they be in regulation and not statute?
- Should we recommend CMS statute? See slide 5

JLOC Telehealth Bill – informed consent continued

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Should we recommend CMS definition of informed consent?

A-0131

(Rev. 95, Issued: 12-12-13, Effective: 06-07-13, Implementation: 06-07-13)

§482.13(b)(2) The patient or his or her representative (as allowed under State law) has the right to make informed decisions regarding his or her care. The patient's rights include being informed of his or her health status, being involved in care planning and treatment, and being able to request or refuse treatment. This right must not be construed as a mechanism to demand the provision of treatment or services deemed medically unnecessary or inappropriate.

Interpretive Guidelines §482.13(b)(2)

The right to make informed decisions means that the patient or patient's representative is given the information needed in order to make "informed" decisions regarding his/her care. The CoP also includes language specific to an incapacitated individual (ie stroke care).

JLOC Telehealth - PHI

- No suggested changes

"**§ 90-21.134. Secure handling of protected health information.**

(a) Covered entities and business associates engaged in the practice of telemedicine shall comply with all federal and State laws and regulations to secure protected health information. Any dedicated software application provided by a covered entity to a telemedicine patient shall ensure that all data is stored and transmitted in accordance with all federal and State laws and regulations for the secure storage and transmission of protected health information.

(b) Before any healthcare provider, covered entity, or business associate engages in the practice of telemedicine or handles any protected health information obtained through the practice of telemedicine, the healthcare provider, covered entity, or business associate shall first

conduct risk analyses and install administrative, physical, and technical safeguards, as determined to be appropriate by the Department or the Department of Information Technology, to ensure the secure handling of protected health information.

JLOC Telehealth – standard of care

"**§ 90-21.135. Standard of care.**

(a) Each healthcare provider engaged in the practice of telemedicine is responsible for ensuring that health care delivered to telemedicine patients adheres to the same standard of care applicable to in-person patients. In addition, healthcare providers engaged in the practice of telemedicine shall ensure all of the following as part of the standard of care for delivering health care via telemedicine:

(1) All healthcare providers and their staff members who provide care via telemedicine shall be trained in the use of telemedicine equipment and technology and its operation.

(2) All telemedicine technology and equipment used by healthcare providers must be sufficient to accurately assess, diagnose, and treat the patient; however, a telemedicine provider may use physical findings obtained by a physical examination of the patient by another licensed healthcare provider as part of the assessment.

(3) All telemedicine providers shall maintain a complete record of the telemedicine patient's care according to prevailing medical records standards. The record must include an appropriate evaluation of the patient's symptoms and all elements of the electronic professional interaction.

(4) No healthcare provider shall prescribe a controlled substance for the treatment of pain unless that provider has, within the last twelve months, conducted an in-person physical examination of the patient for the condition causing the pain for which the prescription is sought."

- Part 1 - There is no specific training for telemedicine that is currently provided. Telemedicine training is incorporated into other training. There are other technologies used by providers where no training is required in statute.
- Part 4 – From a patient safety standpoint, the idea makes sense, but should this be divided into two parts: acute care versus outpatient?
- Part 4 - There was discussion about whether the legislation would conflict with STOP Act and whether NC Medical Board was ultimately responsible for proposing this standard.

JLOC Telehealth – study of private reimbursement

SECTION 2(a). By September 1, 2019, The Department of Health and Human Services shall study and report to the Joint Legislative Oversight Committee on Health and Human Services recommendations for telemedicine reimbursement standards for private health benefit plans. In conducting this study, the Department of Health and Human Services shall (i) solicit the input from the Department of Insurance and relevant stakeholders and (ii) consider at least all of the following:

(1) The health benefit plan reimbursement standards of other states and the results of those standards on cost and access to care.

(2) The specific telemedicine modalities for which health benefit plans should be required to provide reimbursement.

(3) The areas of care for which health benefit plans should be required to provide reimbursement.

(3) Whether private health benefit plans should be required to provide reimbursement for health care delivered via telemedicine on the same terms as reimbursement for in-person care.

(4) How to ensure the State's telemedicine reimbursement policy remains flexible enough to evolve with innovation.

(5) How to best encourage market competition and ensure private health benefit plans retain sufficient flexibility to realize efficiencies.

(6) Any other issues the Department deems appropriate.

- Problematic in that this approach is to study the issue again;
- In order to prepare for parity legislation in 2019 and to provide information to DHHS, NCHA needs to know the following:
  - What telehealth services are NCHA members getting reimbursed for from private payers?
  - What telehealth services are NCHA members not getting reimbursed for from private payers?
  - What are the costs associated with telehealth that are different from in-person care?
  - Do you collect outcome data on telehealth?

JLOC Telehealth - Connectivity

SECTION 2(b). By September 1, 2019, the Department of Health and Human Services shall study and report to the Joint Legislative Oversight Committee on Health and Human Services recommendations for a plan to ensure that all North Carolina residents have sufficiently advanced internet connectivity to receive healthcare via telemedicine. In conducting

Joint Legislative Oversight Committee on Health and Human Services *Page 29*

this study, the Department of Health and Human Services shall solicit input from the Department of Information Technology and consider at least all of the following:

(1) The best manner in which to incentivize investment in next-generation, future-proof broadband infrastructure and reduce barriers to deployment of that infrastructure.

(2) How to create community-based broadband adoption, utilization, and initiatives.

(3) How to ensure all healthcare providers are connected to the North Carolina HIE Network.

(4) Any other issues the Department deem appropriate.

- No specific comments to change;
- NCHA is collecting data requested by this working group from members on connectivity through the Regional Policy Councils that will meet in June

JLOC Telehealth – Metrics and Licensing/Credentialing Study

SECTION 2(c). By September 1, 2019, the Department of Health and Human Services, in consultation with the North Carolina Institute of Medicine and the North Carolina Medical Board shall study and report to the Joint Legislative Oversight Committee on Health and Human Services and the Fiscal Research Division on recommended performance metrics to be used by the Department of Health and Human Services in assessing the quality of telemedicine services provided in the State. In conducting this study, the Department is encouraged to examine all of the following:

(1) The final report entitled "Creating a Framework to Support Measure Development for Telehealth" released by the National Quality Forum in August 2017.

(2) Guidelines established by the Agency for Healthcare Research and Quality.

(3) Any other sources the Department deems appropriate.

SECTION 2(d). September 1, 2019, the Department of Health and Human Services shall report to the Joint Legislative Oversight Committee on Health and Human Services and the Fiscal Research Division on recommended State licensing standards, credentialing processes, and prescribing standards for telemedicine providers, including any proposed legislation. The report shall include at least all of the following:

(1) A proposal for a standardized and centralized credentialing process for all providers that is consistent with the language in the 1115 Medicaid waiver submitted by the Department to the Centers for Medicare and Medicaid Services.

(2) A recommendation as to whether North Carolina should participate in the Interstate Medical Licensure Compact formulated by the Federation of State Medical Boards.

(3) Any other issues the Department deems appropriate.

SECTION 3. This act is effective when it becomes law.

- No specific comments to change;
- Telehealth Working Group members need to recommend quality experts from their system to develop our recommendations for quality and performance metrics
- Do we want to convene a subgroup to make recommendations for licensing, credentialing and prescribing standards for Section 2(d)?