

# Telestroke Services in North Carolina: An Update

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# Terminology

- **Hubs**: A licensed healthcare facility within the state of North Carolina providing neurological telehealth consultations to **spoke** healthcare facilities
- **Distributed Spokes**: Spokes that receive telestroke services from sources other than North Carolina hospitals

# Progress

- **September 2016:** Anna Bess Brown asked stroke coordinators of known hubs to provide a list of spokes within their network
- **Between September 2016– February 2017:** All other licensed healthcare facilities within North Carolina were contacted to ascertain telestroke status
  - Includes hospitals and free-standing emergency departments

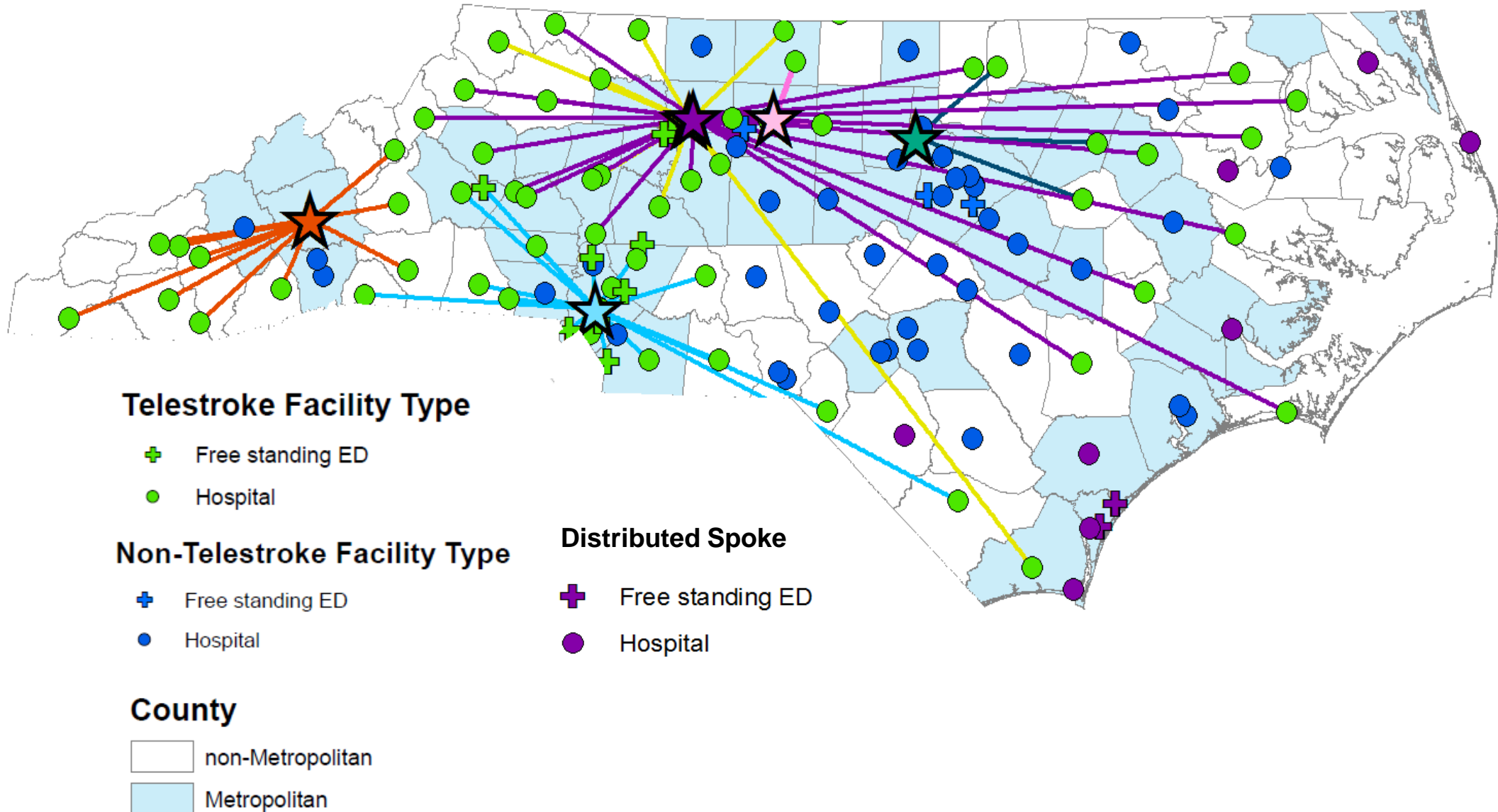
# Telestroke Spokes by Facility Type

	Hospital (N=118)		Free-standing ED (N=14)		Overall (N=132)	
	%	N	%	N	%	N
Not members of telestroke network	36%	42	21%	3	34%	45
Spoke	51%	60	64%	9	52%	69
Hub	5%	6	0%	0	5%	6
Distributed Spoke	8%	10	14%	2	9%	12

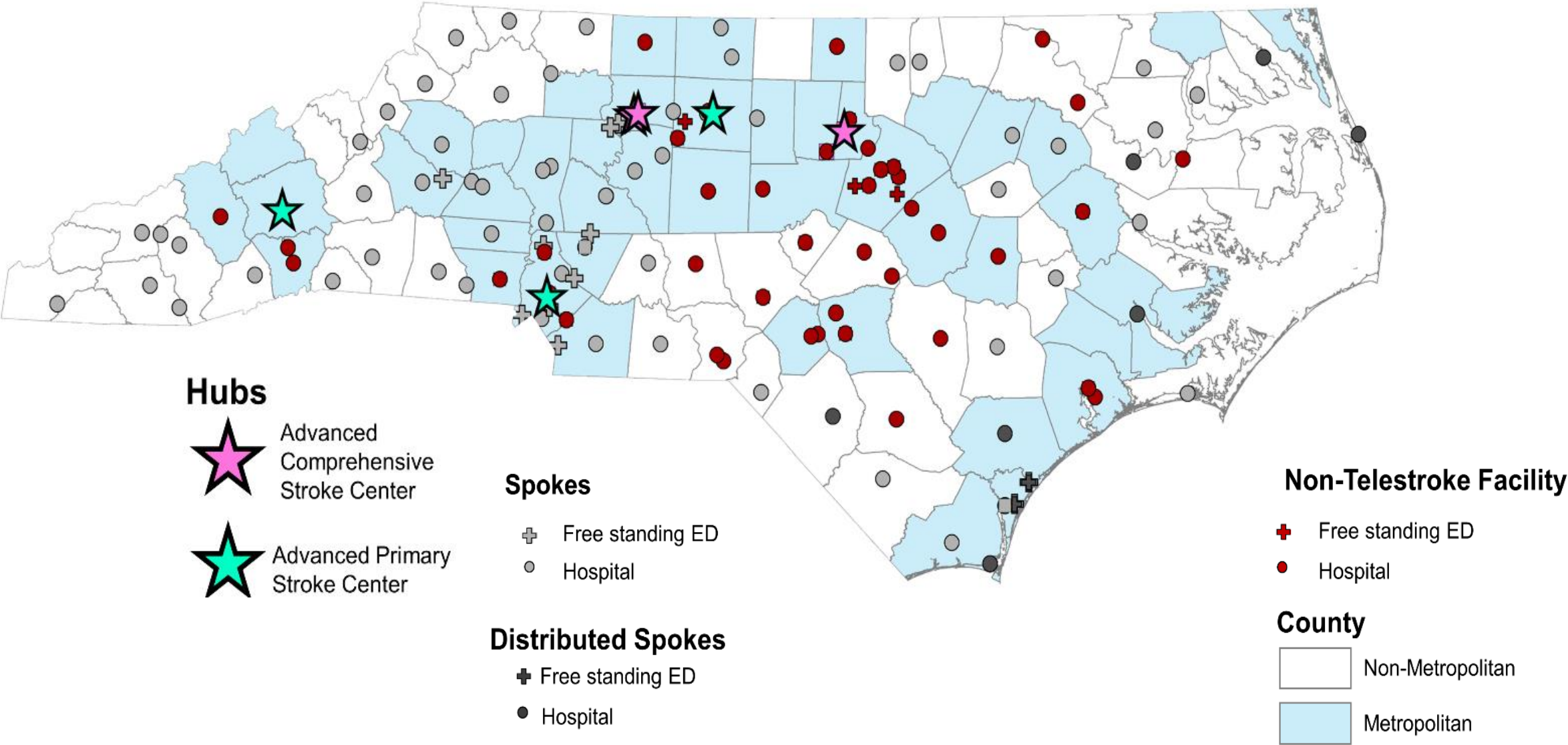
## Hospitals by Joint Certification Status and Telestroke Participation

<b>HOSPITALS (N=118)</b>	<b>%</b>	<b>N</b>
<b>Telestroke</b>	<b>64%</b>	<b>76</b>
Acute Stroke Ready Hospital	3%	2
Advanced Comprehensive Stroke Center	4%	3
Advanced Primary Stroke Center	29%	22
No Certification	64%	49
<b>No Telestroke</b>	<b>36%</b>	<b>42</b>
Advanced Comprehensive Stroke Center	2%	1
Advanced Primary Stroke Center	33%	14
No Certification	64%	27
<b>Total</b>	<b>100%</b>	<b>118</b>

# All Hospitals and Free-Standing Emergency Departments



# Locations of Hospitals and Free-standing Emergency Departments within North Carolina, classified by Telestroke Network Status

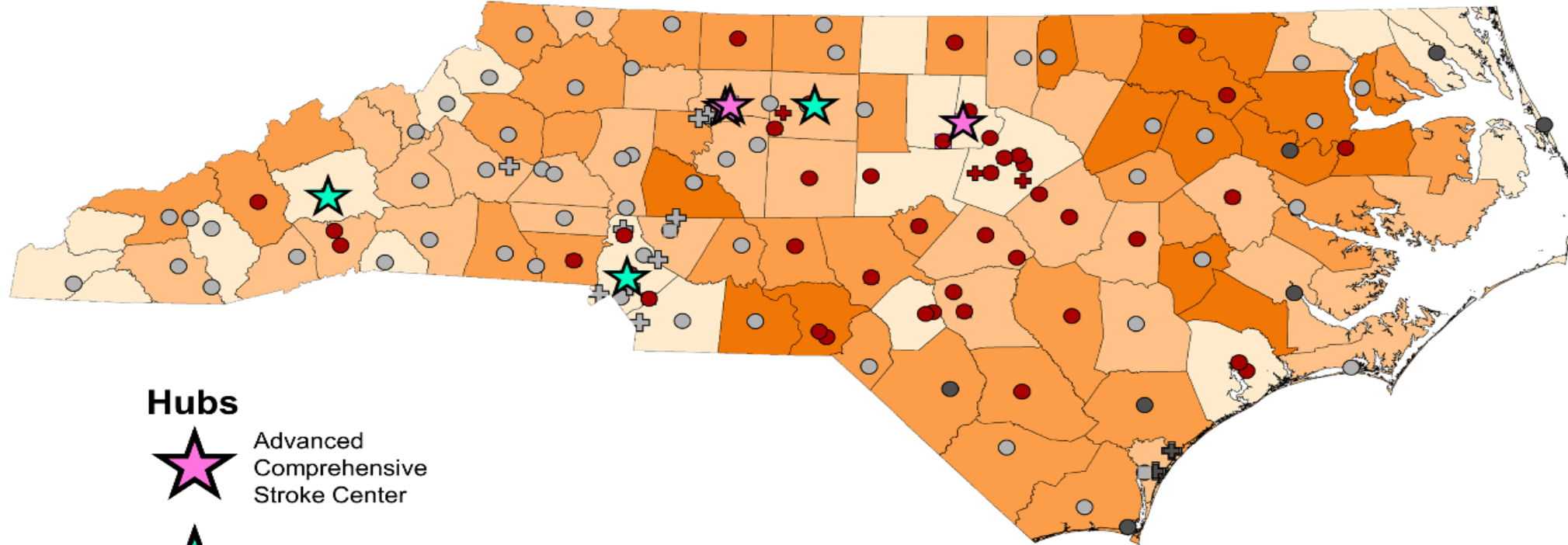


# 69 NC spokes supported by 6 Hubs

Hub	Spokes
Carolinas Healthcare System	21
Duke University Hospital	3 (+2 VA)
Mission Memorial	11
Novant Forsyth	10 (+4 VA)
Moses H. Cone	3
Wake Forest Baptist	21



# Cerebrovascular hospitalizations per 1,000 residents by county



## Hubs



Advanced  
Comprehensive  
Stroke Center



Advanced Primary  
Stroke Center

## Spokes



Free standing ED



Hospital

## Distributed Spokes



Free standing ED



Hospital

## Non-Telestroke Facility



Free standing ED



Hospital

## Stroke Discharges per 1,000 Residents



0.7 - 2.2



2.3 - 3.2

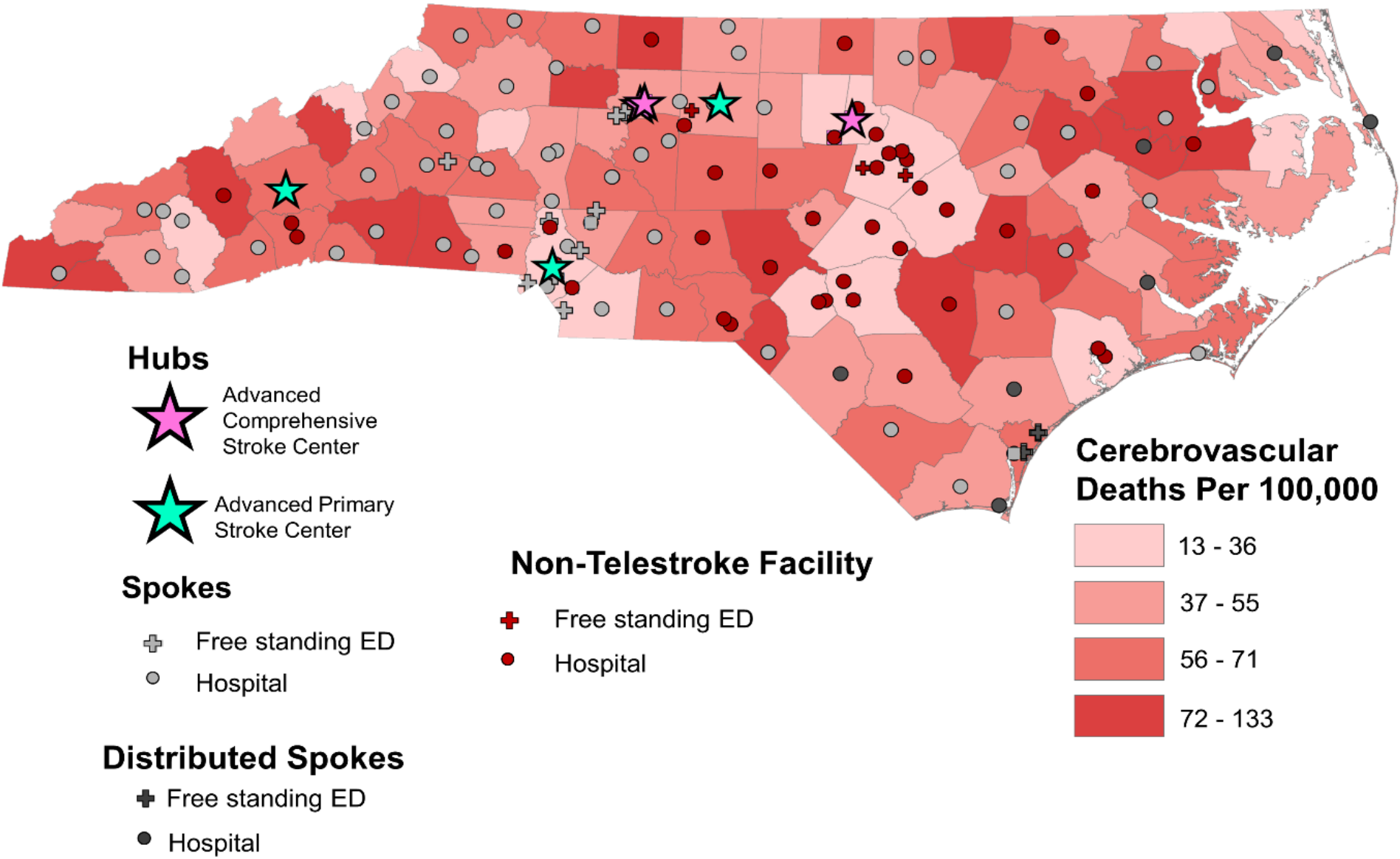


3.3 - 4.2

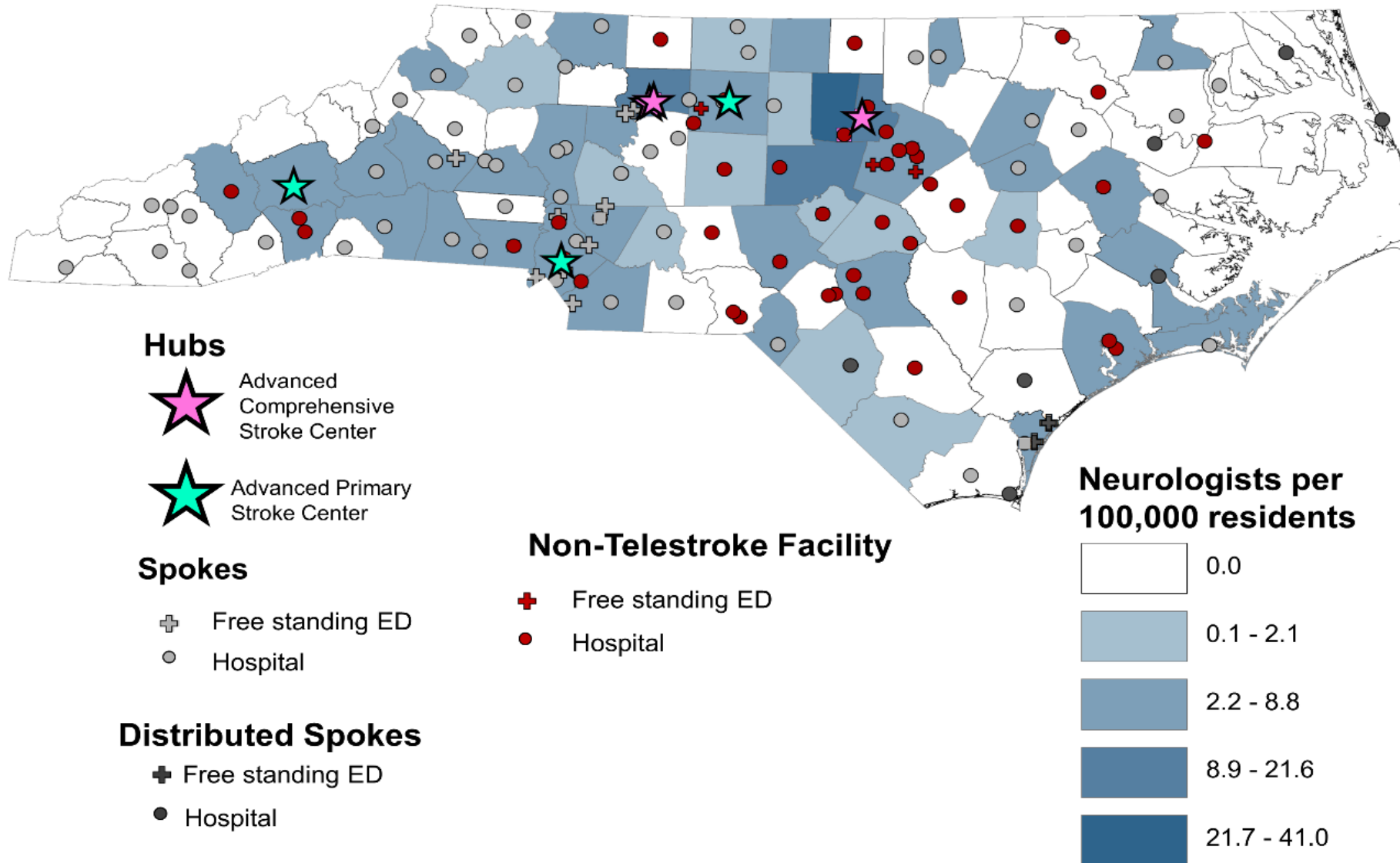


4.3 - 6.4

# Cerebrovascular deaths per 100,000 residents by county.



# Neurologists, per 100,000 residents, employed within each county.



- No neurologists employed in 54 counties

# Summary

- Of the 100 counties in North Carolina, 54 are non-metropolitan and therefore eligible for Medicare reimbursement of telemedicine services.
- Of non-metropolitan counties, 20 (37.7%) do not have either a hospital or free-standing ED affiliated with a telestroke network
  - over half (11 of 20) of these have no hospital within the county
- There are 35 counties that do not have a certified stroke center or a hospital contracting with a telestroke providers.
- There are no hospitals or free-standing EDs in 19 counties.