



NC Stroke Care Collaborative: A brief history and update

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2001



2005



2009

Mission of the NC Stroke Care Collaborative

- Measure, track, and improve the quality of acute stroke care in NC
- Identify and overcome barriers to timely receipt of appropriate acute stroke care
- Decrease death and disability from stroke through secondary prevention

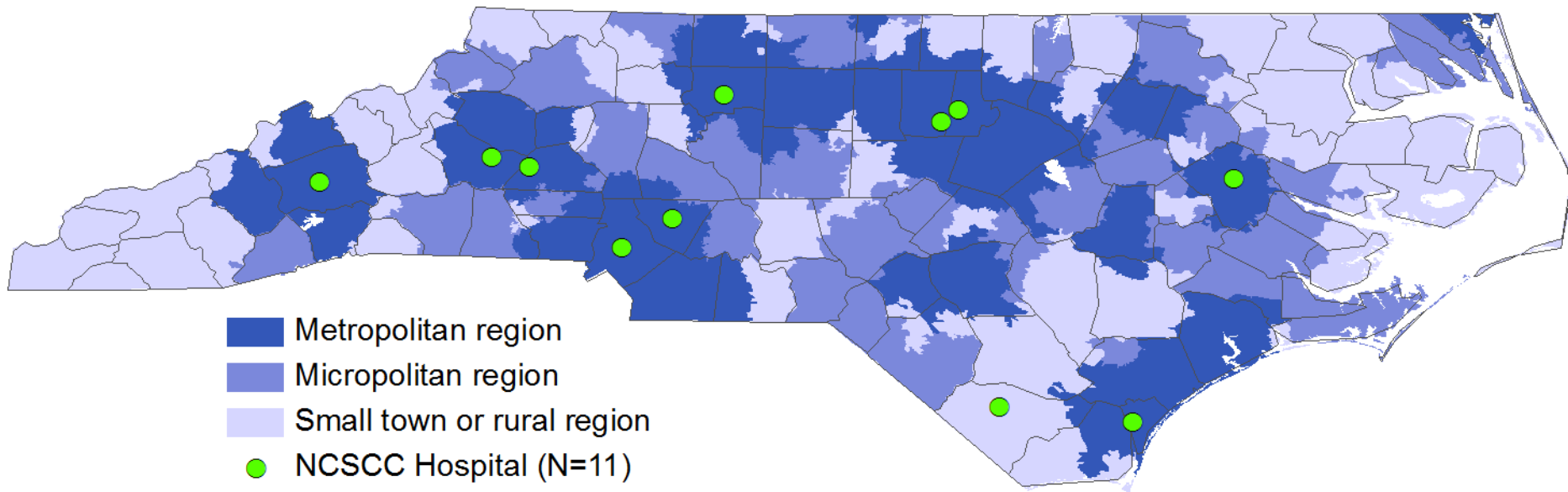
In-Spital Discharge Status	
<p>25. Hospital Admission:</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Not admitted, death <input type="checkbox"/> Not admitted, transferred to ST hospital <input type="checkbox"/> Not admitted, observation only <input type="checkbox"/> Admitted for elective carotid endarterectomy <input type="checkbox"/> Part of stroke clinical trial </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Skip to Q49 <hr/> STOP - patient ineligible </div> </div> <p>Hospital Admission Date: ____/____/____</p> <p>26. Where was this patient cared for and by whom?</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> In stroke unit <input type="checkbox"/> Stroke consult </div> <div> <input type="checkbox"/> Neurology admit <input type="checkbox"/> Other service admit </div> </div> <p>27. Was patient NPO throughout the entire hospital stay? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>29a. Did patient die on the day of arrival or the 1st day after arrival? <input type="checkbox"/> No <input type="checkbox"/> Yes → Skip to Q49</p> <p>30. Was patient restricted to comfort measures only by physician, APN, or PA?</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Yes, day of arrival or 1st day after arrival <input type="checkbox"/> Yes, 2nd day after arrival or later <input type="checkbox"/> Yes, timing unclear <input type="checkbox"/> No <input type="checkbox"/> ND </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Skip to Q33 (Omit Q34-41 & 46-47) <hr/> Proceed to Q31, (Omit Q34-41 & 46-47) </div> </div> <p>31b. Was VTE prophylaxis administered? <input type="checkbox"/> Yes, date of initial administration: ____/____/____ <input type="checkbox"/> Date ND <input type="checkbox"/> No / ND</p> <p>31c. What type of prophylaxis was given? (check all that apply)</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Low dose unfractionated heparin (LDUH) <input type="checkbox"/> Factor Xa Inhibitor <input type="checkbox"/> Venous foot pumps <input type="checkbox"/> Oral factor Xa Inhibitor <input type="checkbox"/> ND or none of the above </div> <div> <input type="checkbox"/> Low molecular weight heparin (LMWH) <input type="checkbox"/> Warfarin <input type="checkbox"/> Intermittent pneumatic <input type="checkbox"/> Graduated compression stockings </div> </div> <p>IF 'Oral Factor Xa' is checked: Is there a documented reason for using Oral Factor Xa Inhibitor for VTE? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>IF not documented or none of the above types of prophylaxis apply: 31d. Is there a documented reason why VTE prophylaxis was not given? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>32. Was antithrombotic therapy received by the end of day after ARRIVAL? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> CI</p> <p>33. Did patient die on the 2nd day after arrival or later? <input type="checkbox"/> No <input type="checkbox"/> Yes → Skip to Q49</p>	<p>34. Was the patient or caregiver provided smoking cessation counseling? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> N/A <input type="checkbox"/> CI</p> <p>35. Was patient prescribed antihypertensive medication at discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> CI</p> <p>36. Was antithrombotic medication prescribed at discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> CI <input type="checkbox"/> Collected Concurrently*</p> <p>IF YES: 36a. Which antithrombotic(s) were prescribed? (Check all that apply) <input type="checkbox"/> Antiplatelet <input type="checkbox"/> Anticoagulant</p> <p>37. Lipid profile: Units: <input type="checkbox"/> mg/dl <input type="checkbox"/> mmol/liter</p> <p>38b. HDL _____ ND Triglycerides _____ <input type="checkbox"/> ND LDL _____ ND Hgb A1c _____ % <input type="checkbox"/> ND Total _____ ND</p> <p>38a. Were statins prescribed at discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>IF NO/ND: 38c. Is there a documented reason why statins were not prescribed? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>IF YES: Statin Medication Name and Dose 38e. Statin medication _____ Statin dose _____ mg / day</p> <p>40. Was atrial fibrillation/flutter (AF) or paroxysmal AF documented during this episode of care? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>IF (IF q.19 or q.40 YES) 41. If history of AF or PAF or dx this admission, was anticoagulation med. prescribed upon discharge (e.g. Warfarin, unfractionated heparin IV, LMWH heparin)? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> CI</p> <p>42. Was patient treated for a UTI during this admission? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>IF YES: 43. Did patient have a Foley catheter during this admission? <input type="checkbox"/> Yes, in place on arrival <input type="checkbox"/> No <input type="checkbox"/> Yes, after admission <input type="checkbox"/> Unable to determine</p> <p>44. Did patient experience a DVT or PE during this admission? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>45. Was patient treated for hospital-acquired pneumonia during this admission? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> CI</p>
<h3 style="margin: 0;">Discharge Data</h3>	
<p>46. Did the patient and/or caregiver receive stroke education and/or resource materials? (check all that apply)</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Personal modifiable risk factors <input type="checkbox"/> Stroke warning signs and symptoms <input type="checkbox"/> How to activate EMS for stroke <input type="checkbox"/> Follow-up after discharge <input type="checkbox"/> Medications prescribed </div> <div> <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> Yes <input type="checkbox"/> No/ND <input type="checkbox"/> Yes <input type="checkbox"/> No/ND </div> </div> <p>47. Was the patient assessed for or received rehabilitation services? <input type="checkbox"/> Yes <input type="checkbox"/> No/ND</p> <p>IF YES, Check all that apply:</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Received rehab services during hospitalization <input type="checkbox"/> Transferred to rehab facility <input type="checkbox"/> Ineligible to receive rehab services <input type="checkbox"/> Referred to rehab services after discharge <input type="checkbox"/> Patient/family refused rehab services </div> </div>	<p>48. What was the patient's ambulatory status at discharge? (check one) <input type="checkbox"/> Able to ambulate independently (with or without device) <input type="checkbox"/> With assistance (from person) <input type="checkbox"/> Unable to ambulate <input type="checkbox"/> ND</p> <p>48b. Modified Rankin Scale at discharge: <input type="checkbox"/> Not performed / ND (0-6)</p> <p>49. Date of Discharge/Death: ____/____/____</p> <p>50. Final Hospital Diagnosis (check only one): <input type="checkbox"/> Ischemic Stroke <input type="checkbox"/> Intracerebral Hemorrhage (ICH) <input type="checkbox"/> Subarachnoid Hemorrhage (SAH) <input type="checkbox"/> No stroke related diagnosis <input type="checkbox"/> Stroke NOS <input type="checkbox"/> TIA</p> <p>51. Was a stroke order set used for this admission? <input type="checkbox"/> ED only <input type="checkbox"/> Both ED and In-patient <input type="checkbox"/> In-patient only <input type="checkbox"/> None</p> <p>52. Discharge disposition: (check one) <input type="checkbox"/> Home <input type="checkbox"/> Hospice - Home <input type="checkbox"/> Hospice - Health care facility <input type="checkbox"/> Acute care facility <input type="checkbox"/> Other health care facility (please specify) <input type="checkbox"/> SNF <input type="checkbox"/> Inpatient rehabilitation <input type="checkbox"/> Long-term care <input type="checkbox"/> Intermediate care facility <input type="checkbox"/> Other <input type="checkbox"/> Expired <input type="checkbox"/> Left against medical advice/AMA <input type="checkbox"/> ND / unable to determine</p>
<h3 style="margin: 0;">ICD-9 Data</h3>	
<p>54. ICD-9 principal discharge diagnosis: ____</p>	

NCSCC Performance Measures Report July 1, 2014 to December 31, 2014
Case Listing for Performance Measures Report - Hospital
(N = 72)

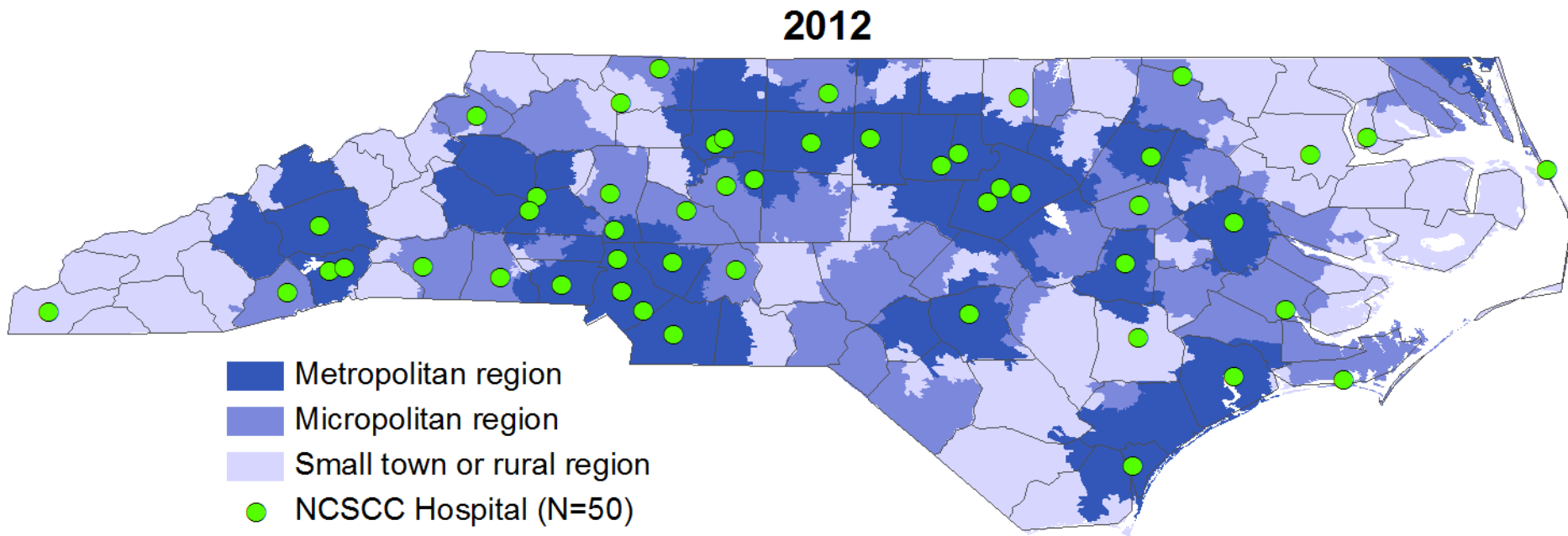
Subject ID	Discharge Date	Type	PM1	PM2	PM3	PM4	PM5	PM6	PM7	PM8	PM9	PM10	PM11	PM12	PM13	DFC
NCSCC_	09/12/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	Yes
NCSCC_	09/16/2014	Transient ischemic attack	-	Yes	-	-	Yes	No	-	No	-	-	-	-	-	No
NCSCC_	09/18/2014	Ischemic stroke	Yes	-	-	-	Yes	-	No	-	-	-	No	-	-	No
NCSCC_	09/20/2014	Transient ischemic attack	-	Yes	-	-	Yes	Yes	-	No	-	-	-	-	-	No
NCSCC_	09/26/2014	Ischemic stroke	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	-	Yes	No	-	-	Yes
NCSCC_	09/27/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	No	Yes	-	Yes	No	-	-	No
NCSCC_	09/29/2014	Transient ischemic attack	-	-	-	-	Yes	-	-	-	-	-	-	-	-	Yes
NCSCC_	09/30/2014	Ischemic stroke	Yes	Yes	-	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	-	No
NCSCC_	10/01/2014	Ischemic stroke	Yes	-	-	No	Yes	-	No	-	-	-	Yes	Yes	-	No
NCSCC_	10/02/2014	Transient ischemic attack	-	Yes	-	-	Yes	Yes	-	Yes	-	-	-	-	-	Yes
NCSCC_	10/03/2014	Transient ischemic attack	-	Yes	-	-	Yes	Yes	-	Yes	-	-	-	-	-	Yes
NCSCC_	10/04/2014	Transient ischemic attack	-	No	-	-	Yes	Yes	-	No	-	-	-	-	-	No
NCSCC_	10/07/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	No	Yes	-	Yes	No	-	-	No
NCSCC_	10/07/2014	Ischemic stroke	-	Yes	-	No	-	Yes	No	Yes	-	Yes	No	Yes	-	No
NCSCC_	10/08/2014	Transient ischemic attack	-	-	-	-	Yes	-	-	-	-	-	-	-	-	Yes
NCSCC_	10/15/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	No	Yes	Yes	Yes	No	-	-	No
NCSCC_	10/15/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes
NCSCC_	10/17/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	Yes	No	-	-	Yes
NCSCC_	10/21/2014	Ischemic stroke	Yes	-	-	-	-	-	-	-	-	-	Yes	Yes	-	Yes
NCSCC_	10/22/2014	Transient ischemic attack	-	Yes	-	-	Yes	-	-	Yes	-	-	-	-	-	Yes
NCSCC_	10/24/2014	Ischemic stroke	Yes	-	-	-	Yes	-	No	-	-	-	No	-	-	No
NCSCC_	11/10/2014	Ischemic stroke	Yes	-	-	-	No	-	No	-	-	-	No	-	-	No
NCSCC_	11/12/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	No	Yes	-	Yes	Yes	-	-	No
NCSCC_	11/12/2014	Ischemic stroke	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	Yes	No	-	-	Yes
NCSCC_	11/17/2014	Ischemic stroke	Yes	-	-	-	Yes	-	Yes	-	-	-	Yes	-	-	Yes
NCSCC_	11/18/2014	Ischemic stroke	Yes	-	-	-	No	-	No	-	-	-	Yes	-	-	No

Growth of the NC Stroke Care Collaborative

2003

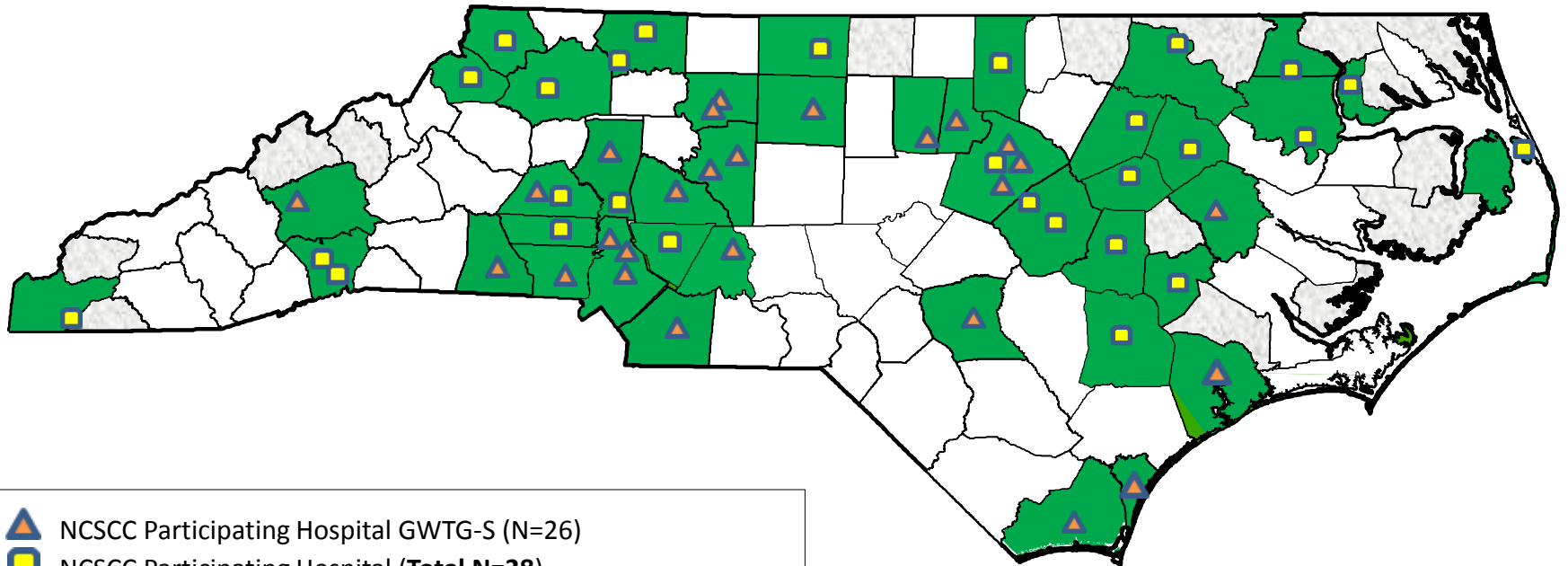


Growth of the NC Stroke Care Collaborative



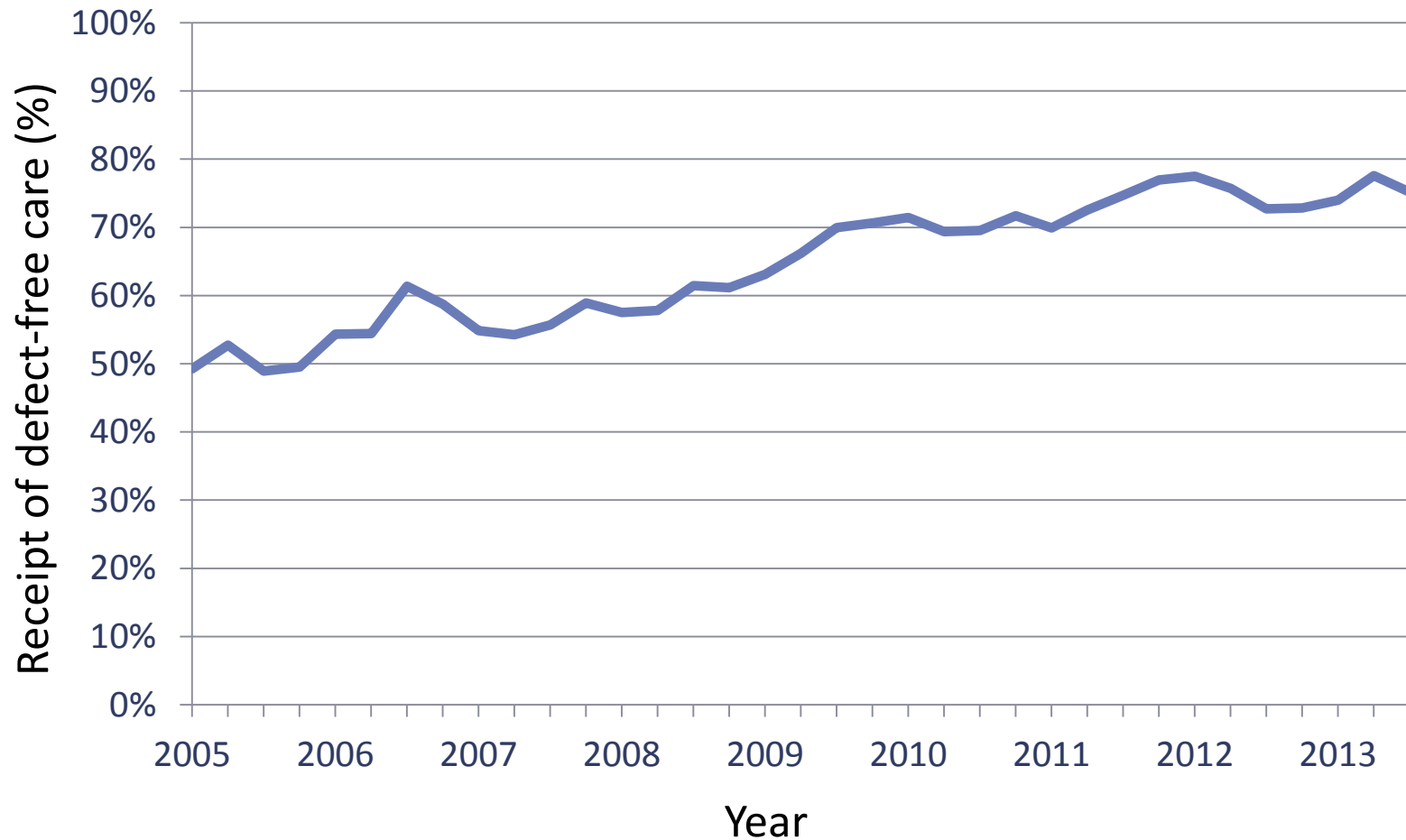
80% of NC population live in counties with a NCSCC participating hospital

2015 NCSCC Hospital Participation (n=54)

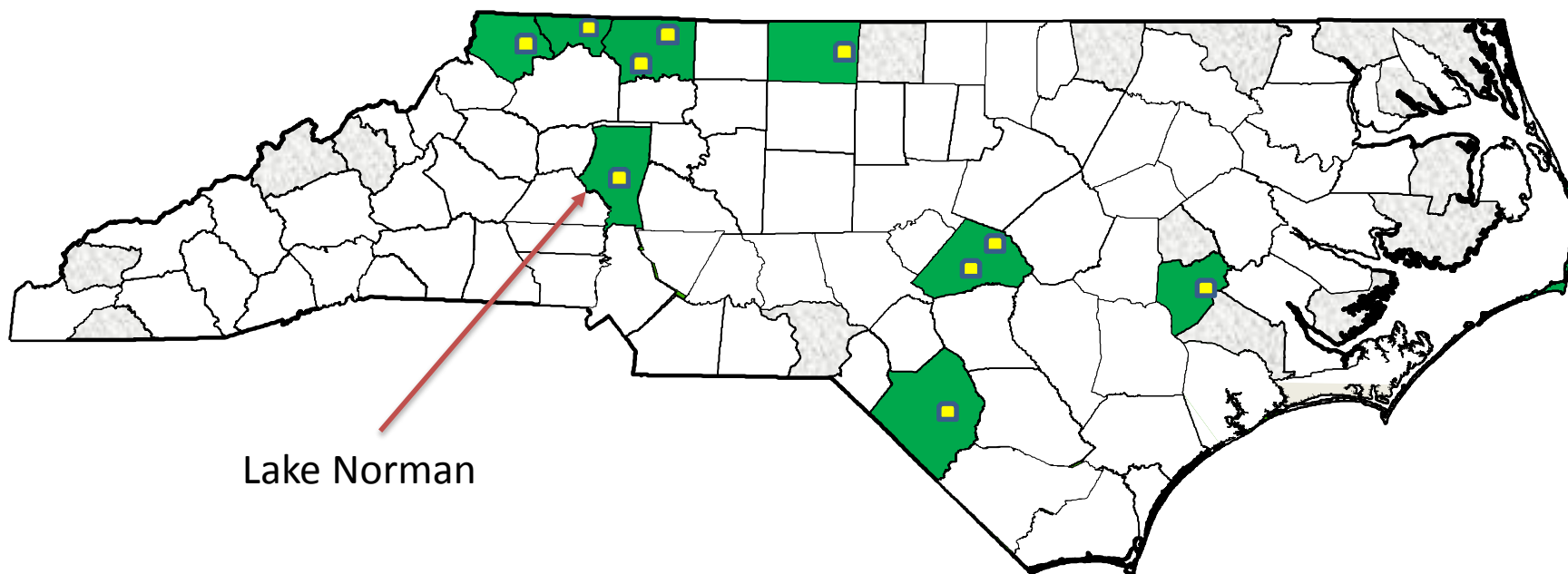


- ▲ NCSCC Participating Hospital GWTG-S (N=26)
- NCSCC Participating Hospital (Total N=28)
- N.C. County with 1 or more Participating Hospital
- N.C. County without a Hospital




Improvement in acute stroke care in hospitals participating in NC Stroke Care Collaborative, 2005-2015



NCSCC Hospital Participation, 2018



Lake Norman

-  NCSCC Participating Hospital (**Total N=10**)
-  N.C. County with 1 or more Participating Hospital
-  N.C. County without a Hospital

What's next?

- Coverdell funding?
- New data acquisition models
- New partners/collaborators
- Sustainability
- Connection with primary prevention



Thank You

QUESTIONS

NCSCC – Stroke Performance Measures

PCNASR Measure	NHIQM Number	NQF Number	Performance Measure Name	IS	TIA	HS	Stroke NOS
1*	STK-1	0434	Venous Thromboembolism (VTE) Prophylaxis	X		X	X
2*	STK-2	0435	Discharged on Antithrombotic Therapy	X	X		
3*	STK-3	0436	Anticoagulation for AF	X	X		
4*	STK-4	0437	t-PA administered	X			
5*	STK-5	0438	Antithrombotic therapy by end of day 2	X	X		
6*	STK-6	0439	Discharged on statin medication	X	X		
7	-	0243	Dysphagia screening	X		X	X
8*	STK-8	0440	Stroke education	X	X	X	X
9	-	-	Smoking cessation counseling	X	X	X	X
10*	STK-10	0441	Assessed for rehabilitation	X		X	X
11	CSTK-01	1955	NIHSS score recorded	X			
12	-	0661	Door-to-image time	X		X	X
13	-	1952	IV-tPA within 60 minutes	X			