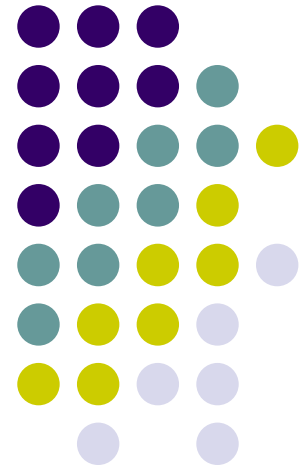


Health Care Utilization Patterns in North Carolina

State Health Coordinating Council

Sandra B. Greene, DrPH
Professor of the Practice, Health Policy & Management
Senior Research Fellow,
Sheps Center for Health Services Research
University of North Carolina at Chapel Hill

March 7, 2012

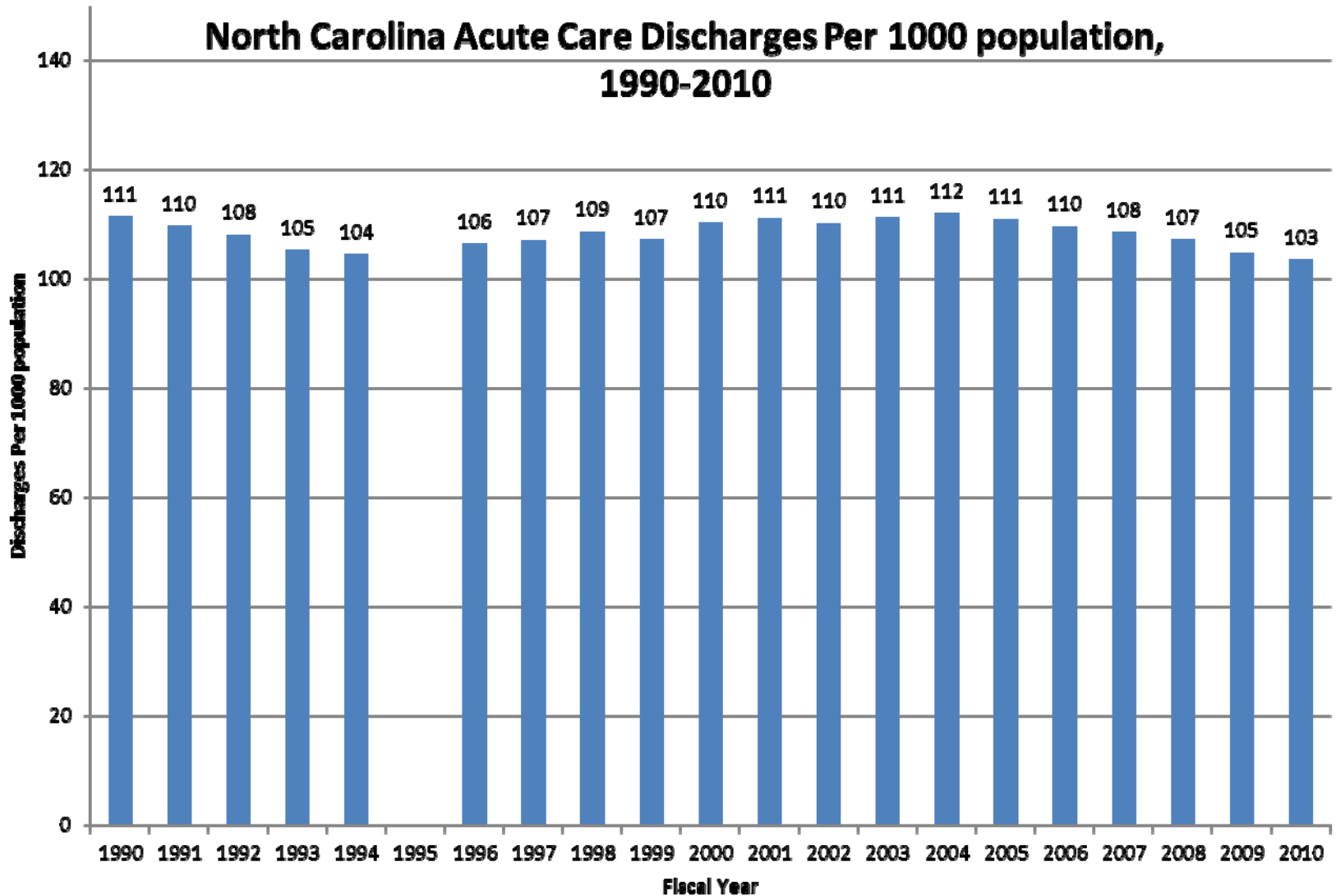


Number of Discharges and Days Peaked in 2008

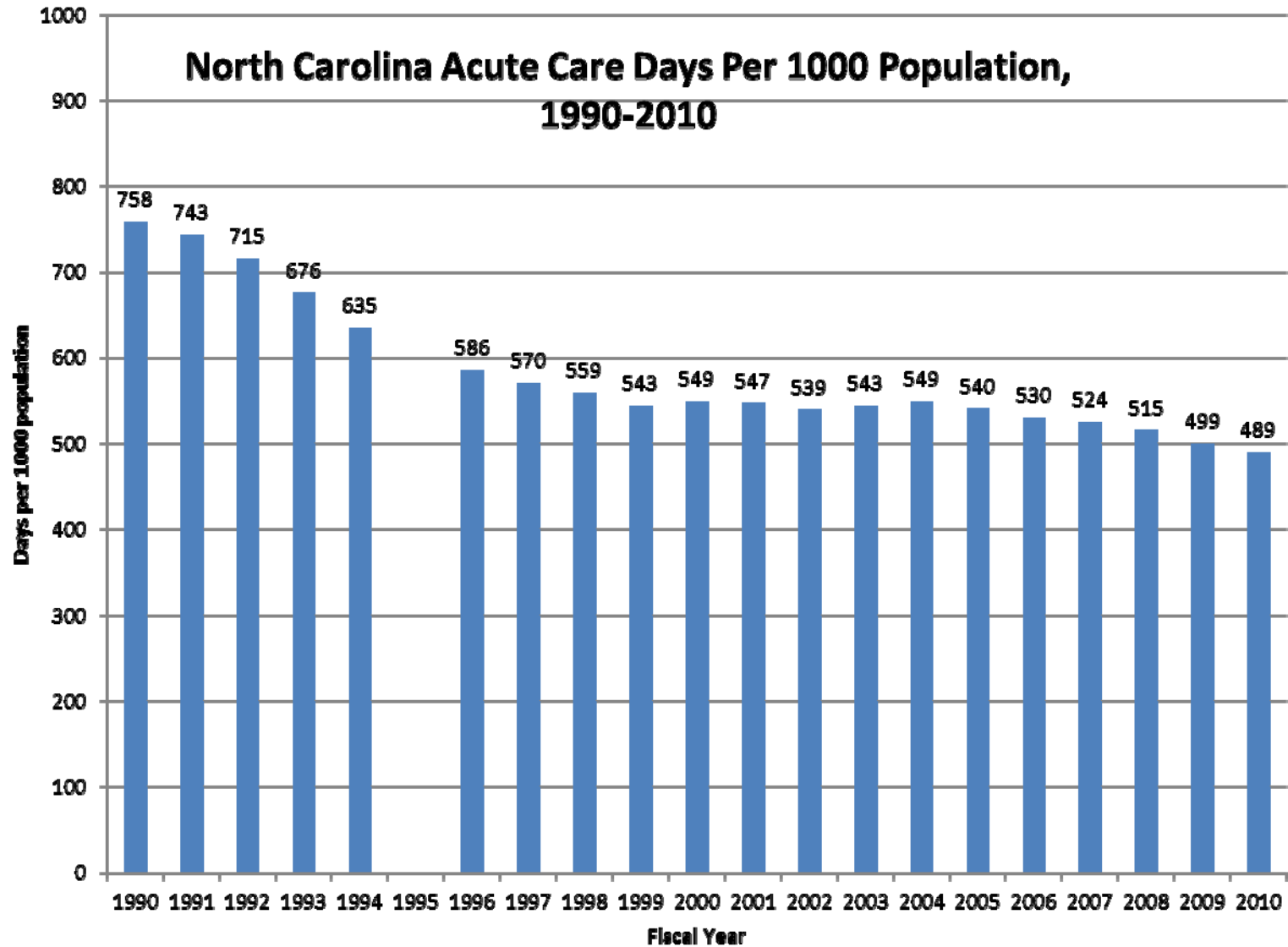
	Discharges	Days
2004	1,075,825	5,041,721
2005	1,086,512	5,049,404
2006	1,099,057	5,079,329
2007	1,113,277	5,141,528
2008	1,124,284	5,164,849
2009	1,116,717	5,093,196
2010	1,115,196	5,056,713

Source: Thomson Reuters North Carolina Hospital Discharge Data

North Carolina Acute Care Discharges Per 1000 population, 1990-2010

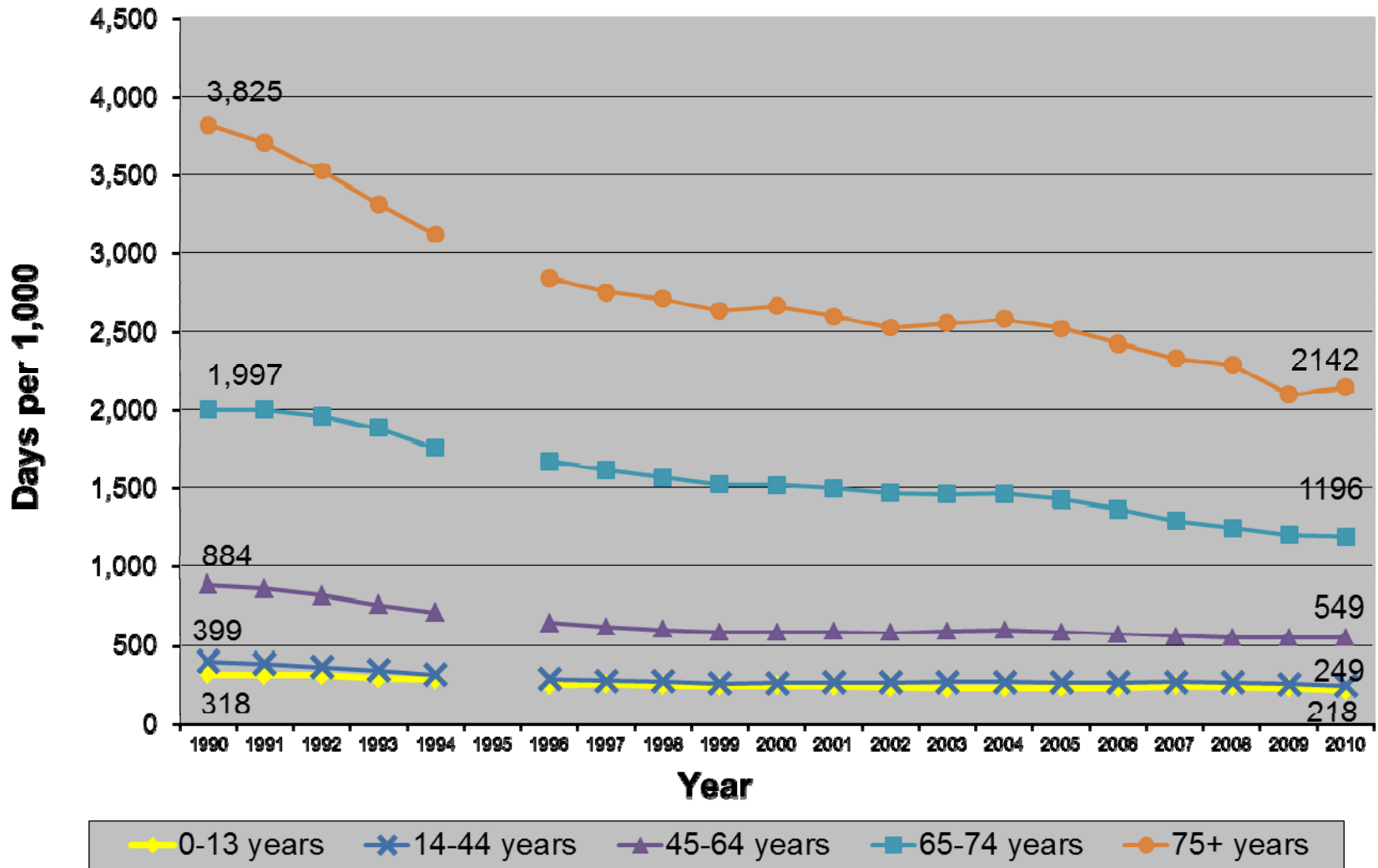


Sources: Discharge data from Thomson Reuters, FY 1996-2010; Medical Database Commission FY 1989-1994. Population data from NC Office of State Planning. Notes: No hospital data available for 1995. Total admissions to psychiatric, rehabilitation and substance abuse facilities have been removed. Normal newborn admissions have also been removed.



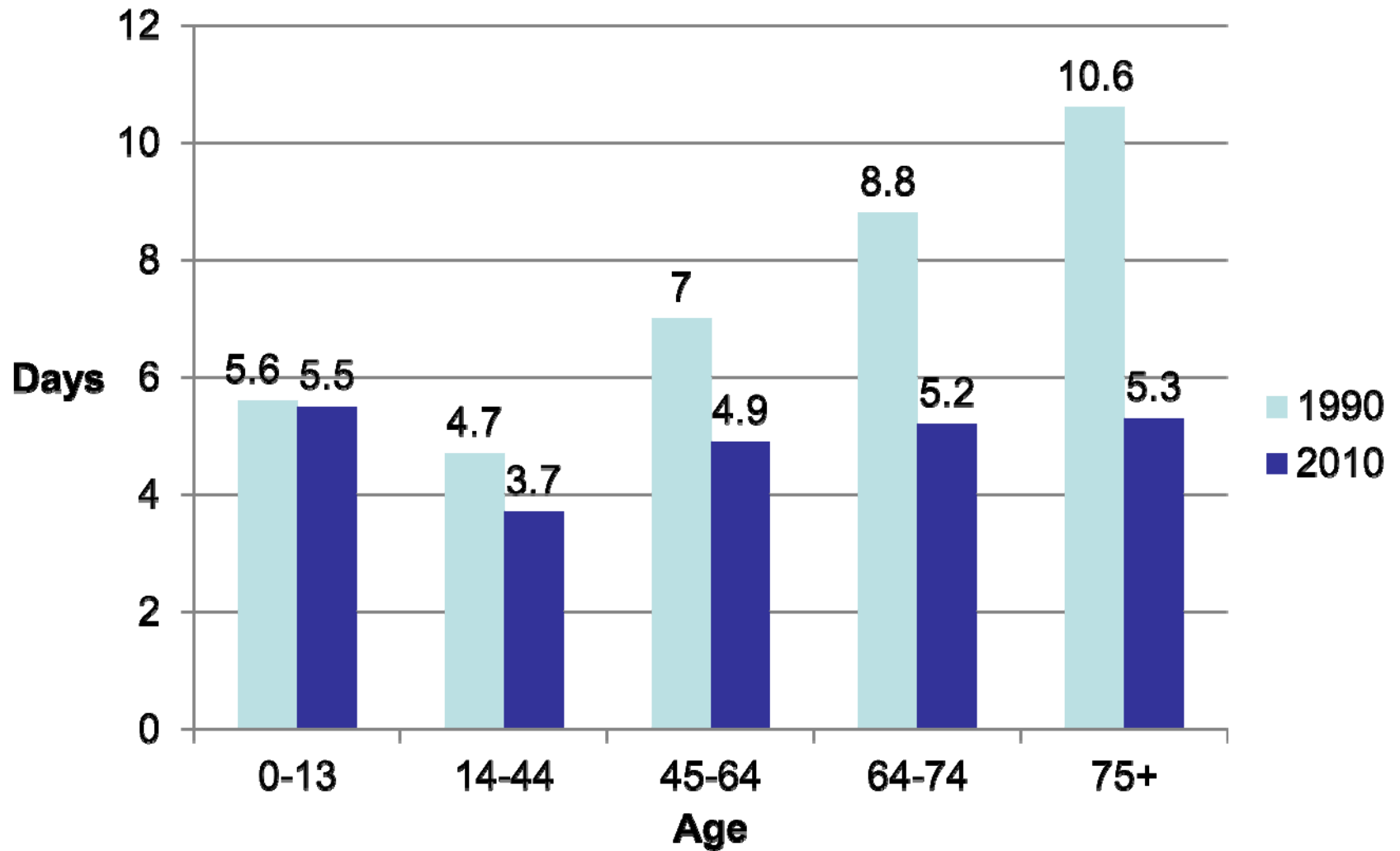
Sources: Discharge data from Thomson Reuters, FY 1996-2010; Medical Database Commission FY 1989-1994. Population data from NC Office of State Planning. Notes: No hospital data available for 1995. Total admissions to psychiatric, rehabilitation and substance abuse facilities have been removed. Normal newborn admissions have also been removed.

NC Acute Care Hospital Days per 1,000 Population October 1, 1989 to September 30, 2010



Sources: Discharge data from Thomson Reuters, FY 1996-2010; Medical Database Commission FY 1989-1994. Population data from NC Office of State Planning. Notes: No hospital data available for 1995. Total admissions to psychiatric, rehabilitation and substance abuse facilities have been removed. Normal newborn admissions (DRG 391) have also been removed.

Change in Average Length of Stay 1990-2010



Source: Thomson Reuters North Carolina Hospital Discharge Data

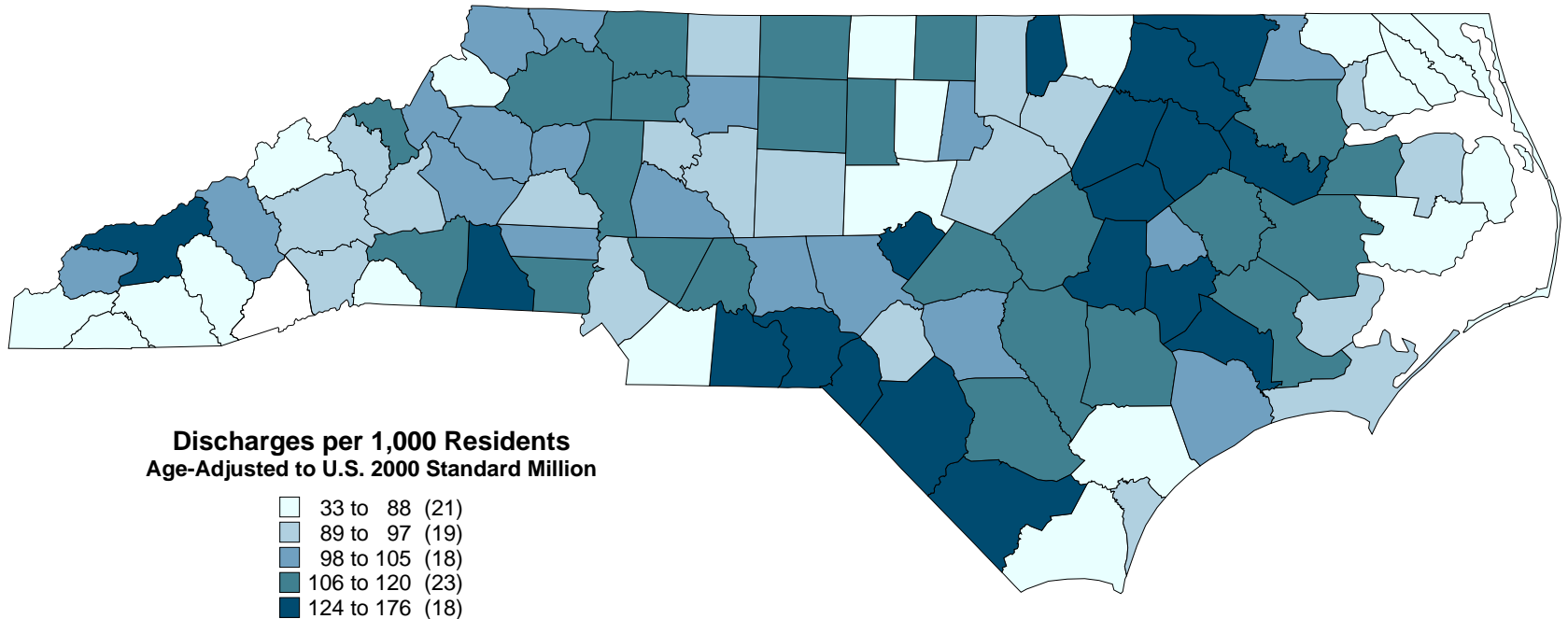
NC Inpatient Discharge Data Admission Source

Admission Source	N	%
MD/Clinical Referral	587,808	57.1
Emergency Department	328,811	31.9
Transfer from Different Hospital	50,362	4.9
Newborn	31,303	3.0
Transfer from another non-hospital facility	10,200	1.0
Transfer from skilled nursing	10,111	1.0
Transfer from same hospital	4,764	0.5
Court/Law enforcement	4,688	0.5
Other	1,235	0.1

SOURCE: Thomson Reuters NC Discharge Data, fiscal year 2009 and 2010, does not include normal newborns

Hospital Discharge Rates per 1,000 Residents

Residents Discharged from North Carolina Hospitals: October 1, 2009 to September 30, 2010



Note: Discharges from Psychiatric, Rehabilitation, Long Term Care, and Substance Abuse Treatment Facilities are not included.
Normal newborn discharges (DRG 795) excluded.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Ambulatory Care Sensitive Conditions

(AHRQ prevention quality indicators)

Conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease.

Diabetes

Uncontrolled diabetes without complications.
Short-term diabetes complications.
Long-term diabetes complications.
Lower-extremity amputation among patients with disability

Acute Conditions

Bacterial pneumonia.
Dehydration.
Urinary tract infection.
Perforated appendix.
Pediatric gastroenteritis

Circulatory Diseases

Congestive heart failure.
Hypertension.
Angina without procedure

Respiratory Diseases

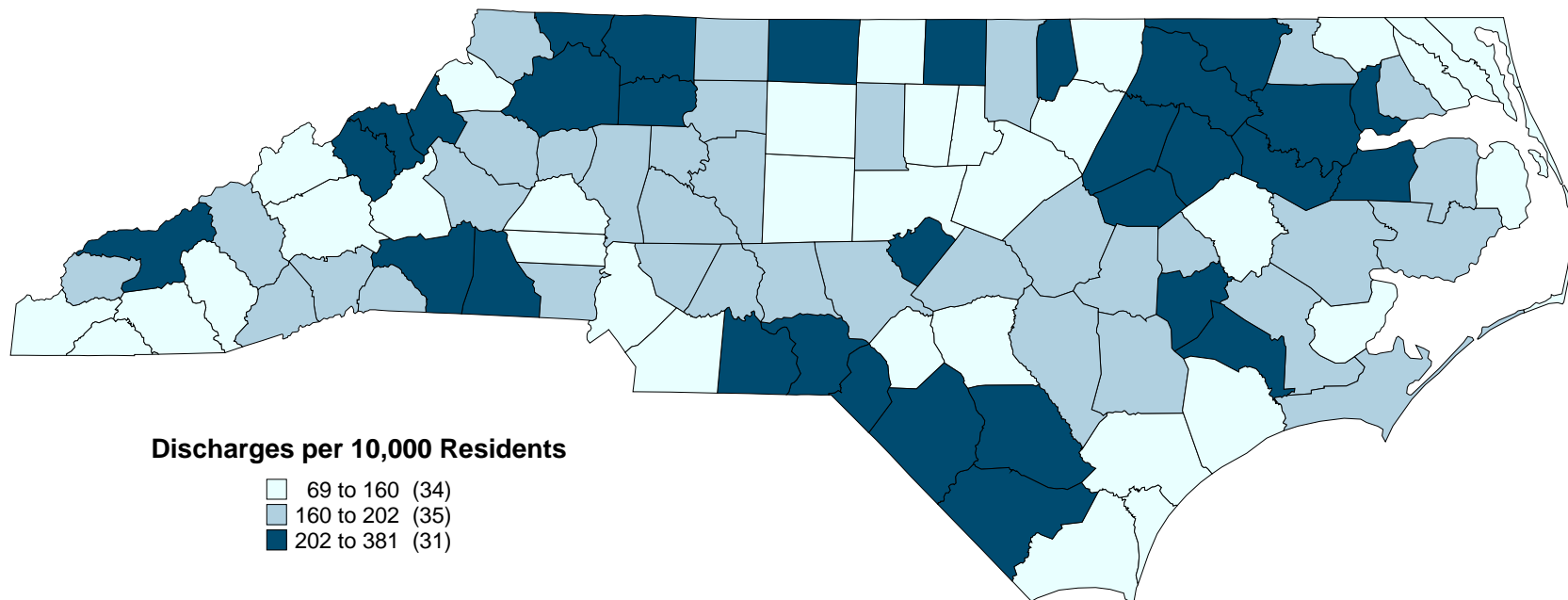
Adult asthma.
Pediatric asthma.
Chronic obstructive pulmonary disease

Birth Outcomes

Low-weight

Hospital Discharges for Ambulatory Care Sensitive Conditions per 10,000 Residents

Residents 18 Years and Older Discharged from North Carolina Hospitals
October 1, 2009 to September 30, 2010



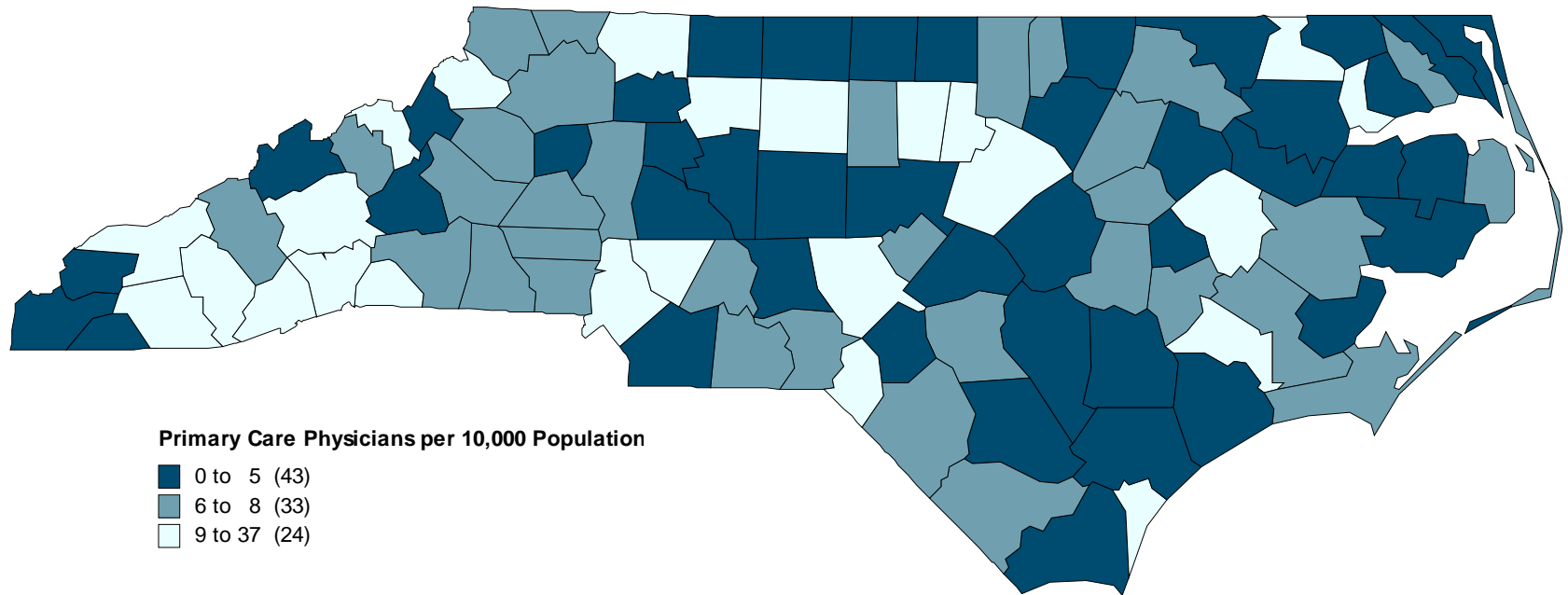
Note: Ambulatory Sensitive Conditions are defined as the Prevention Quality Indicators for those 18 years and older, see <http://www.qualityindicators.ahrq.gov>.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Primary Care Physicians per 10,000 Population

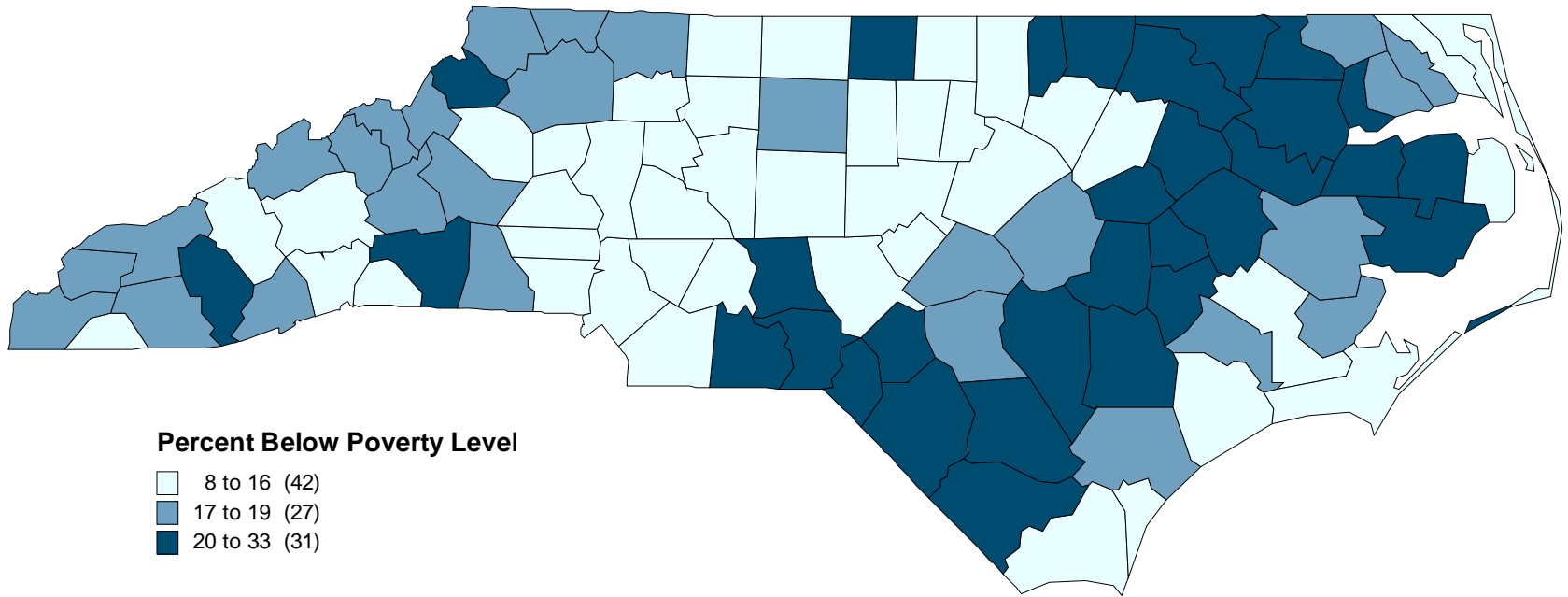
North Carolina 2009



Note: Primary Care Physicians include active or unknown activity status, instate, nonfederal, non-resident-in-training MDs and Dos indicating a primary specialty of Family Practice, General Practice, Internal Medicine, Ob/Gyn, or Pediatrics.
Source: North Carolina Health Professions Data System, with data derived from the North Carolina Medical Board, 2009.
Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

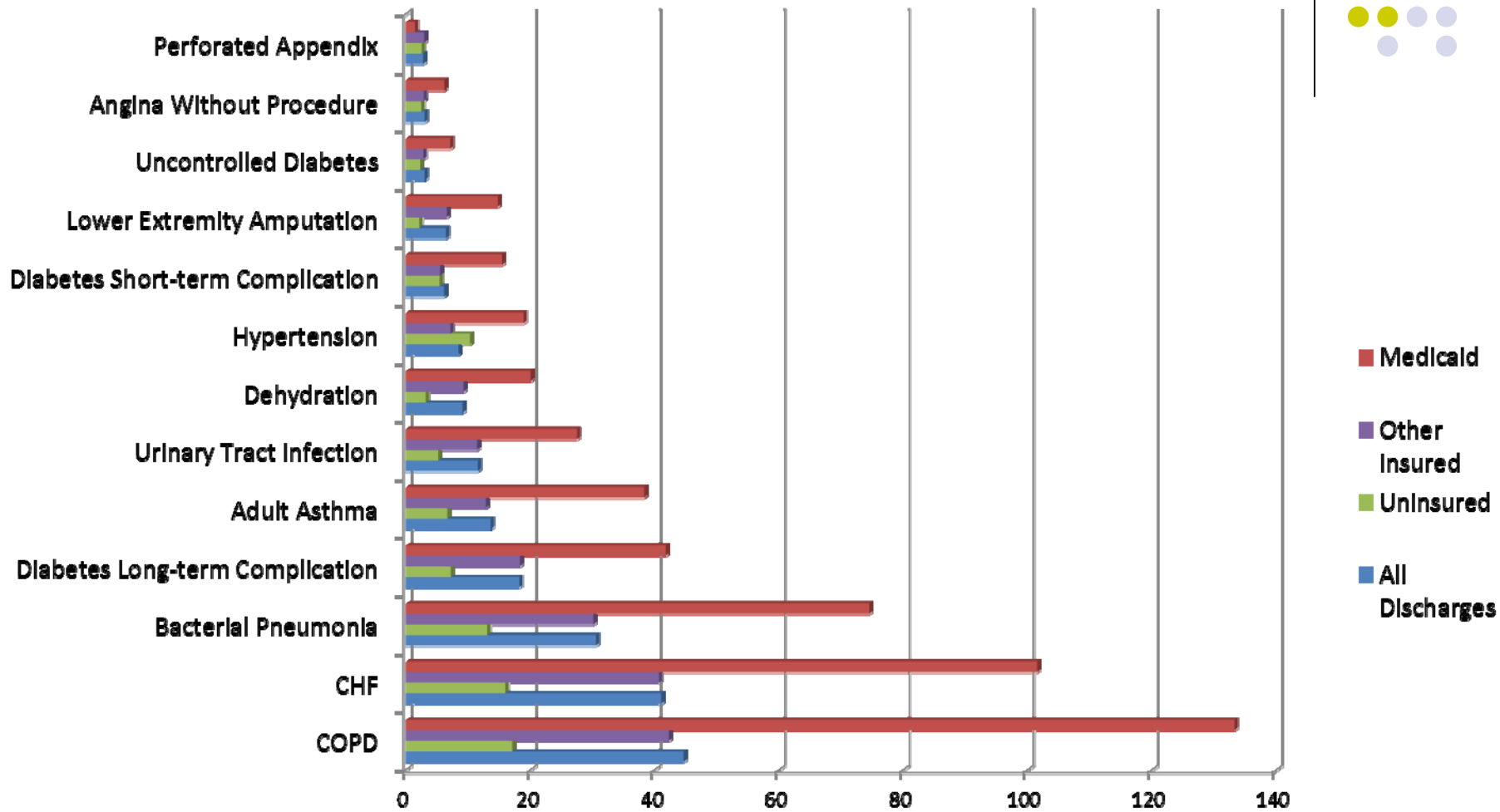
Percent of Population Below Federal Poverty Level

North Carolina 2009



Adult Prevention Quality Indicators - Ambulatory Sensitive Conditions

Rates per 10,000 persons, Ages 55-64, North Carolina, FY2009

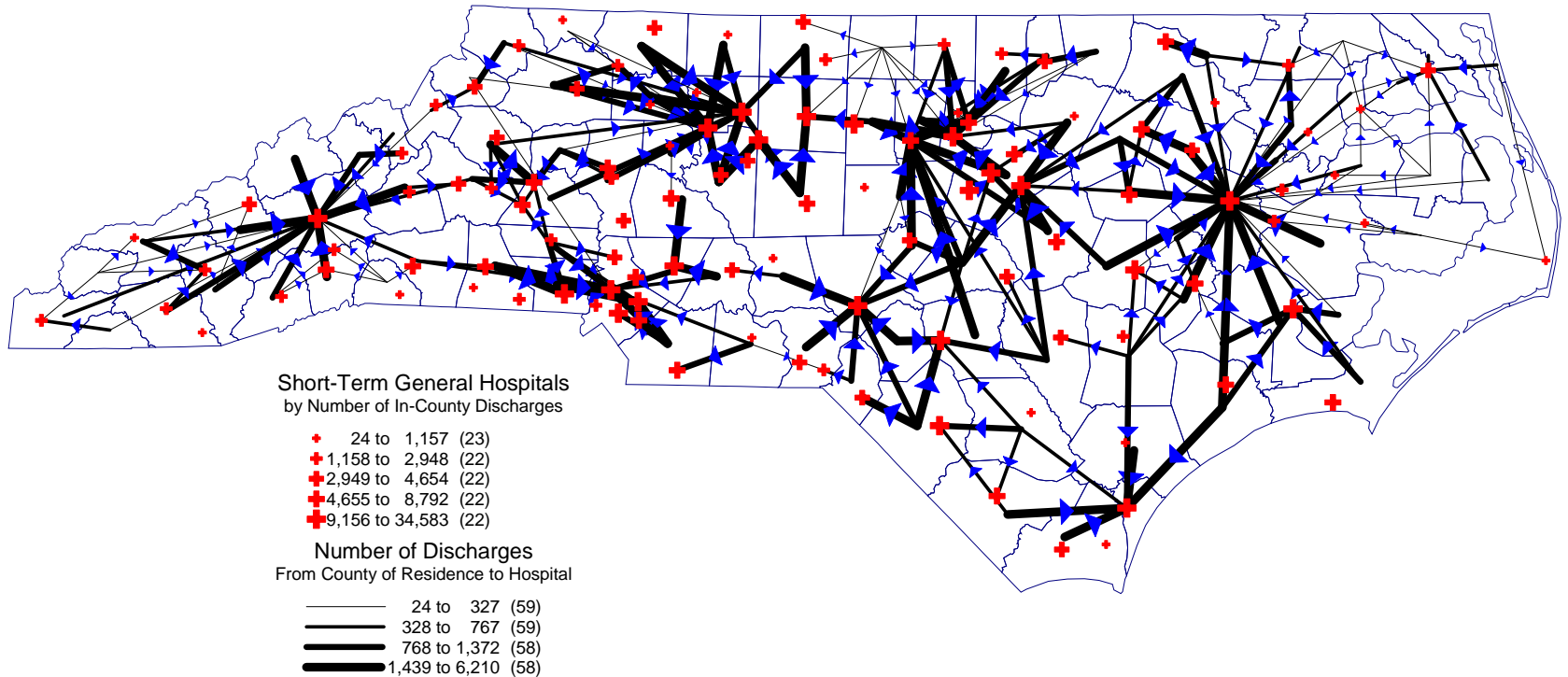


1 Developed by AHRQ, http://www.qualityindicators.ahrq.gov/pqi_download.htm
 Source: NC Hospital Discharge data, Cecil G. Sheps Center for Health Services Research

Patient Origin for North Carolina Residents and Hospitals

Inpatient Discharges by County of Residence and Hospital

Residents Discharged from North Carolina Hospitals: October 1, 2009 to September 30, 2010



Note: For any county vectors are only drawn for hospitals receiving at least five percent of the county's Discharges.
 Discharges from Psychiatric, Rehabilitation, Long Term Care, and Substance Abuse Treatment Facilities are not included.
 Normal newborn discharges (DRG 391) excluded.

Source: Thomson Healthcare North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Number of ED Visits

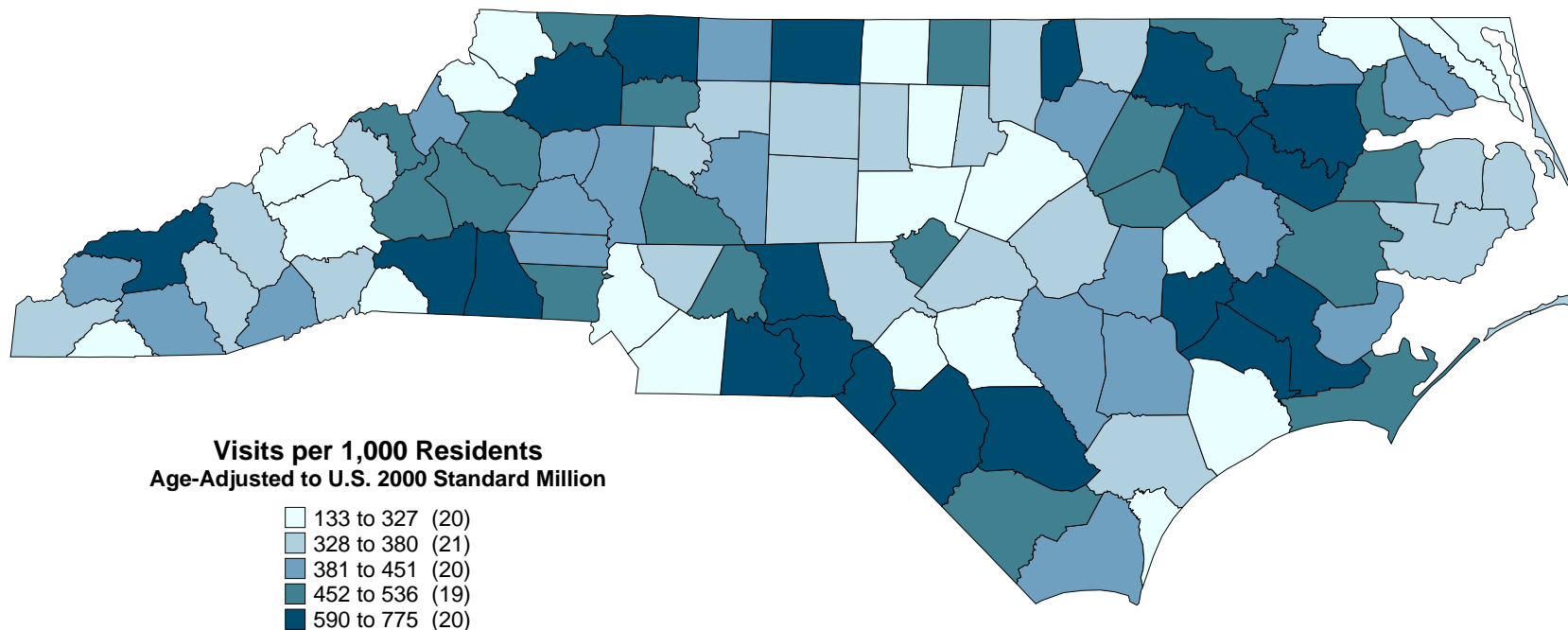
	Patient Visits
2007	3,301,411
2008	3,417,165
2009	3,596,034
2010	3,638,470

Source: Thomson Reuters North Carolina Discharge Data



Emergency Department Visit Rates per 1,000 Residents

Resident Visits to North Carolina Emergency Departments
October 1, 2009 to September 30, 2010



Note: Includes patients admitted to hospital.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

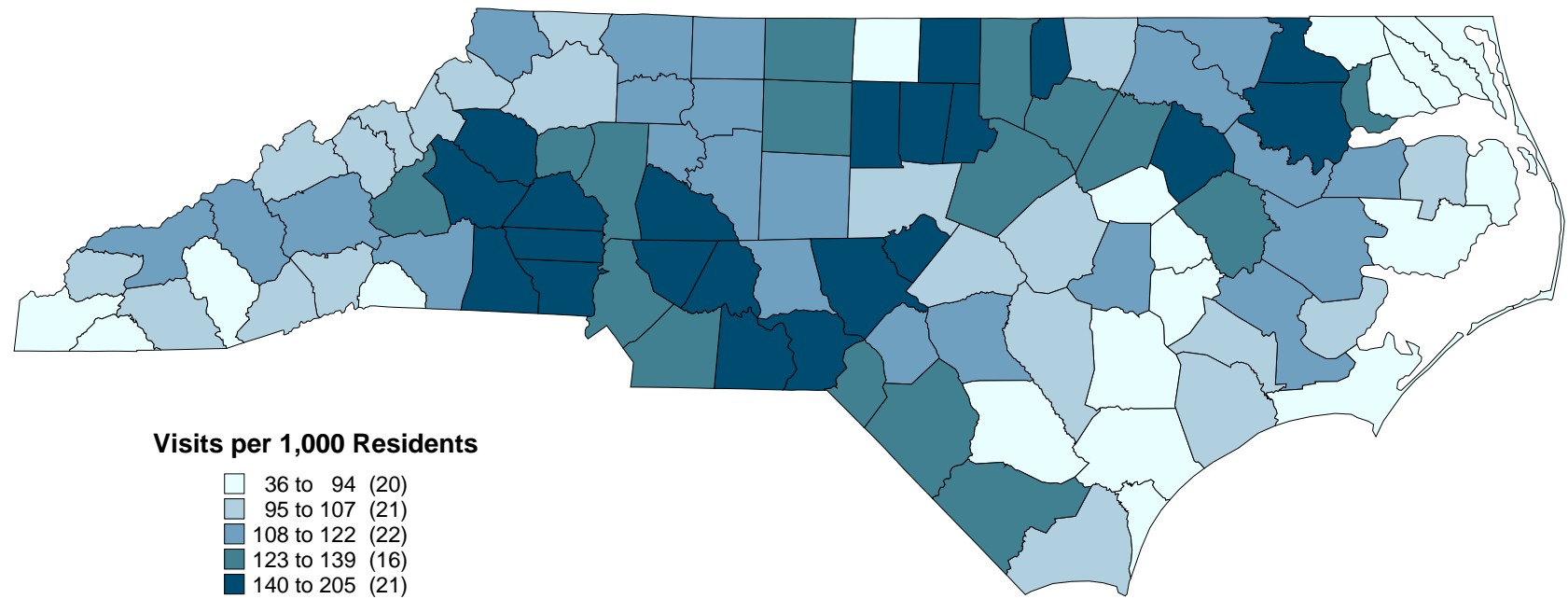
Number of Ambulatory Surgery Visits

	Patient Visits
2007	1,137,661
2008	1,201,447
2009	1,260,379
2010	1,284,189



Ambulatory Surgery Visits per 1,000 Residents

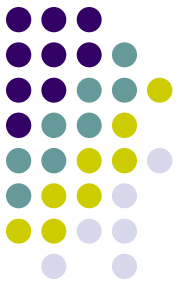
October 1, 2009 to September 30, 2010



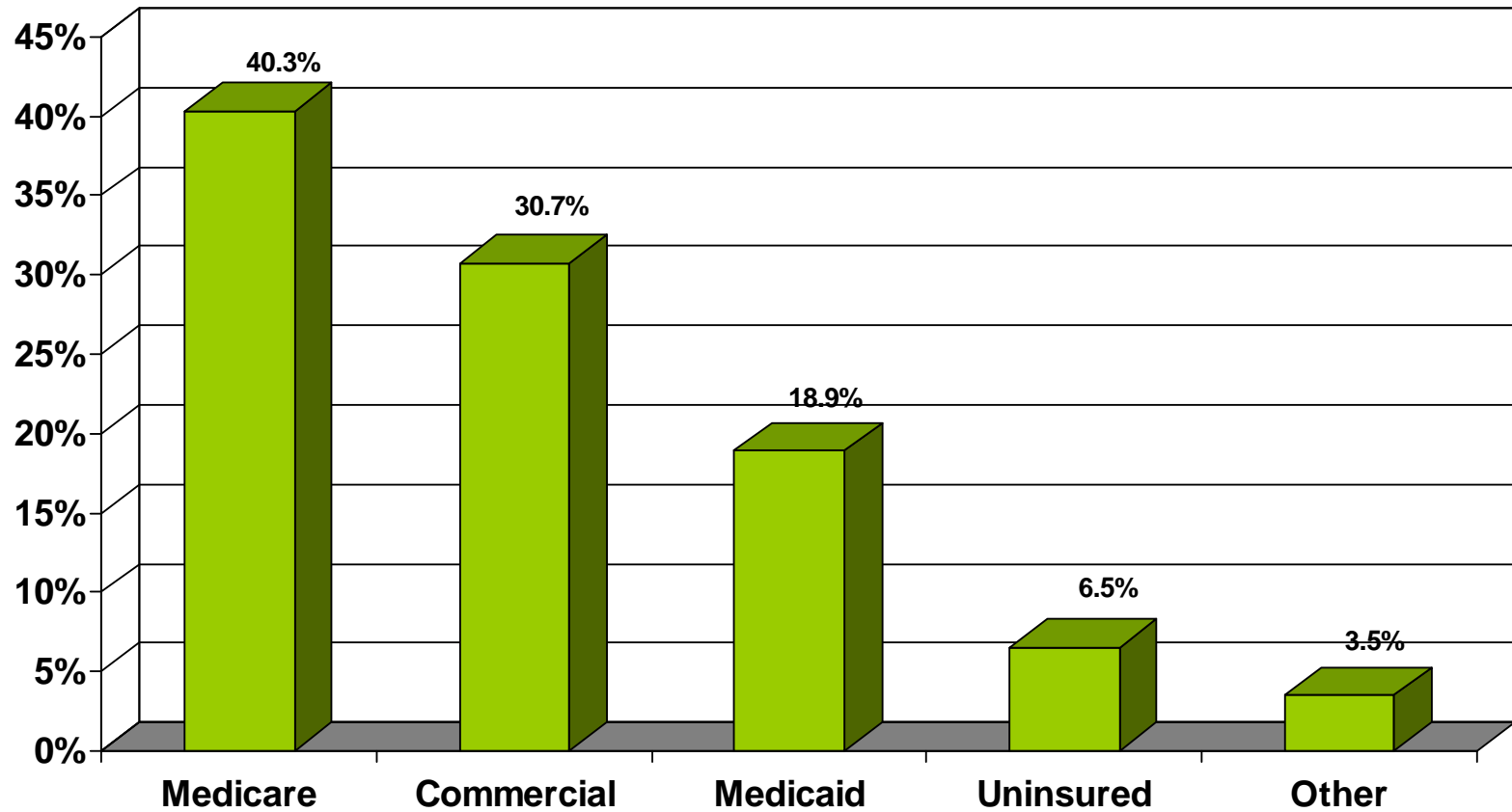
Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

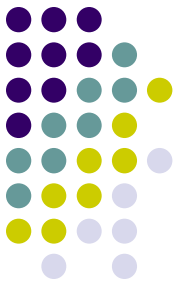
NC Payer Mix - Inpatient



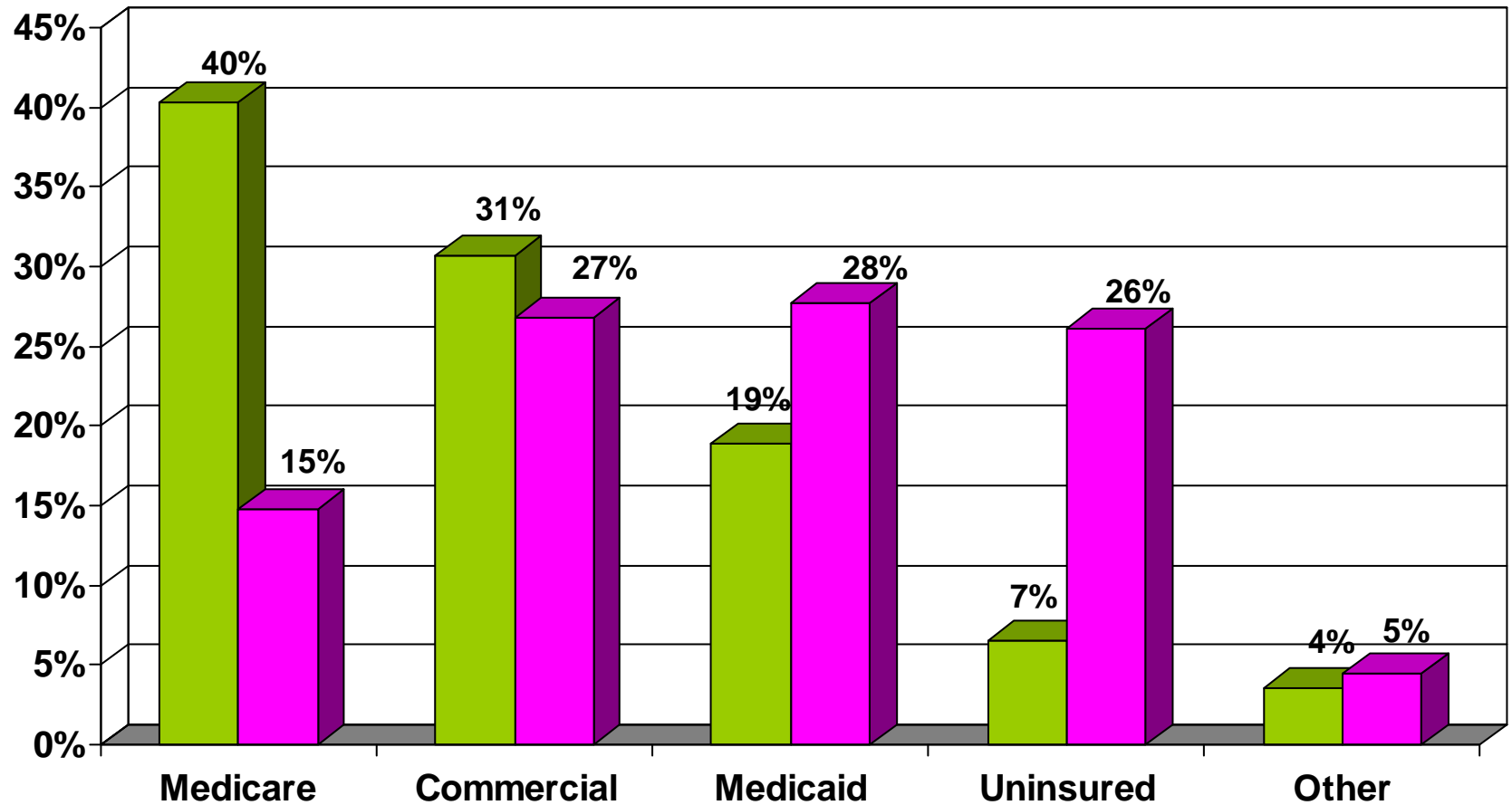
October 1, 2009 to Sept 30, 2010



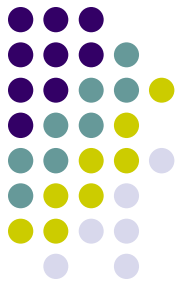
NC Payer Mix – Inpatient and ED



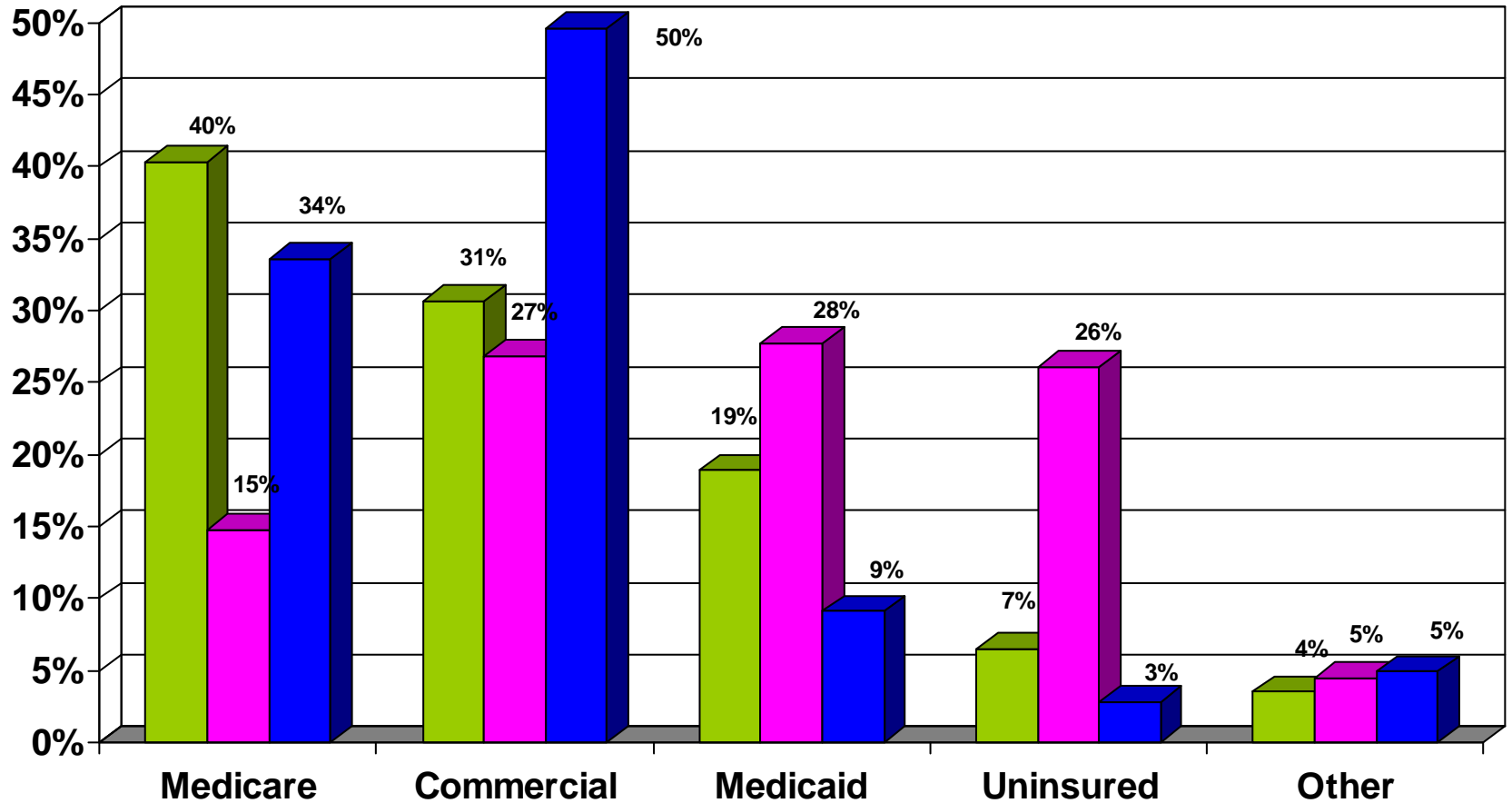
October 1, 2009 to Sept 30, 2010

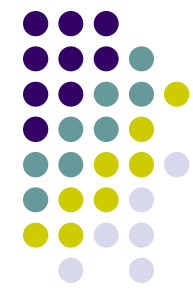


NC Payer Mix – Inpatient, ED and Ambulatory Surgery



October 1, 2009 to Sept 30, 2010

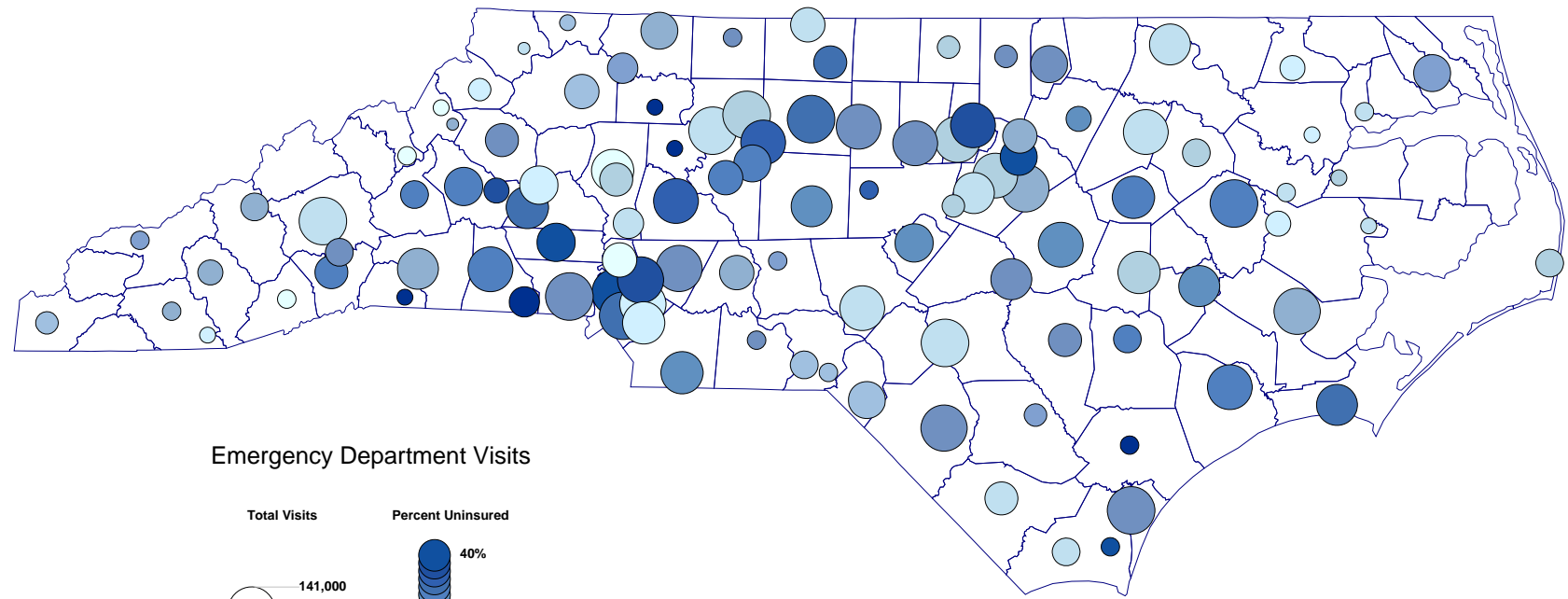




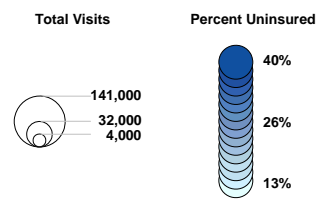
Emergency Department Visits and Insurance Status

Percent Uninsured Visits by Emergency Department

North Carolina Emergency Department Visits: October 1, 2009 to September 30, 2010



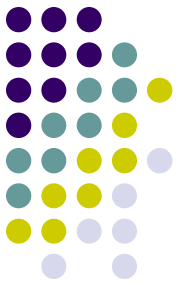
Emergency Department Visits



Note: Includes patients admitted to hospital.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

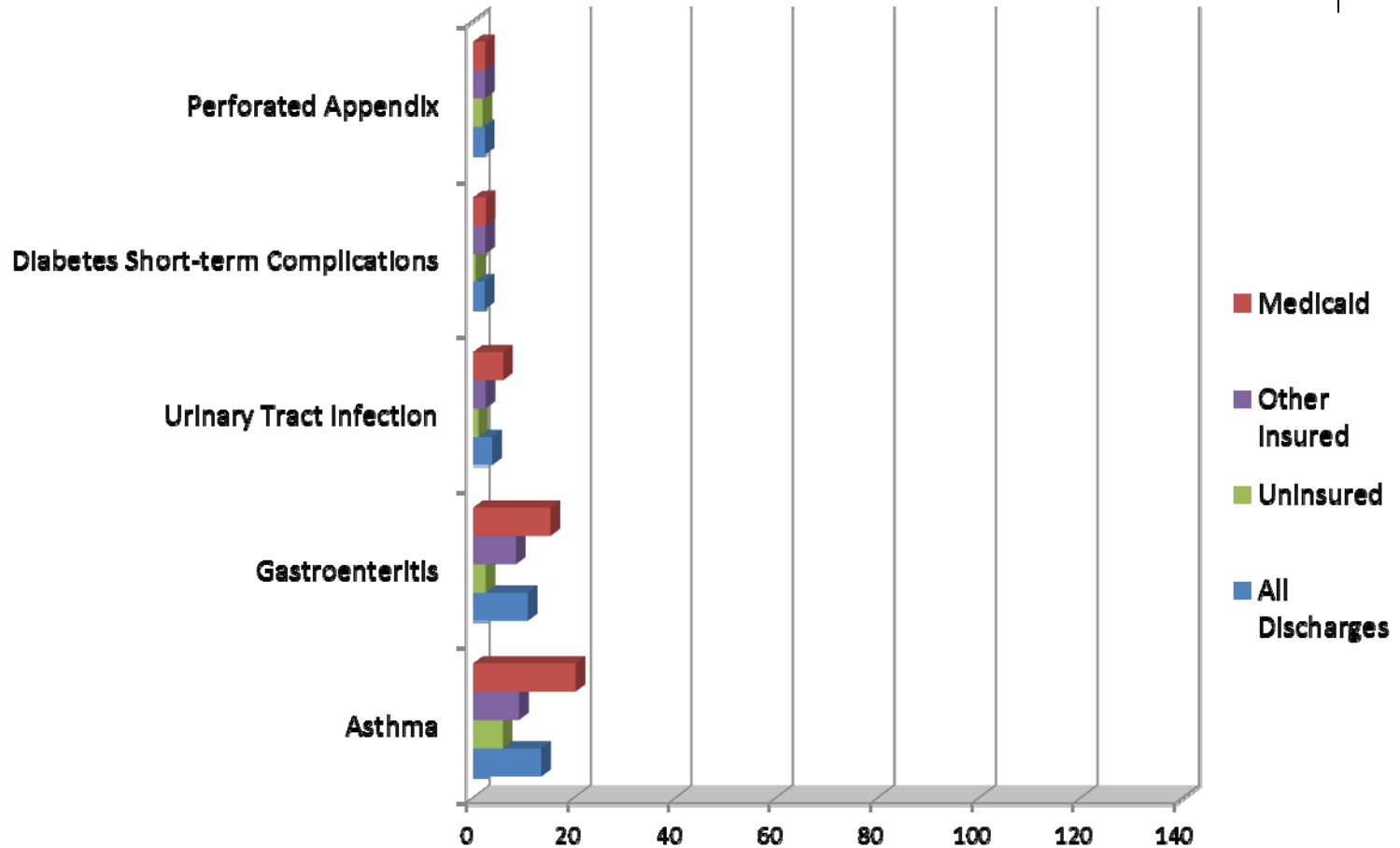
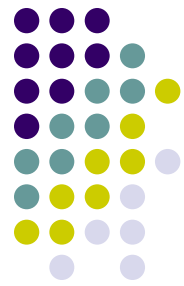
Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.



Questions?

Pediatric Prevention Quality Indicators-Ambulatory Sensitive Conditions¹

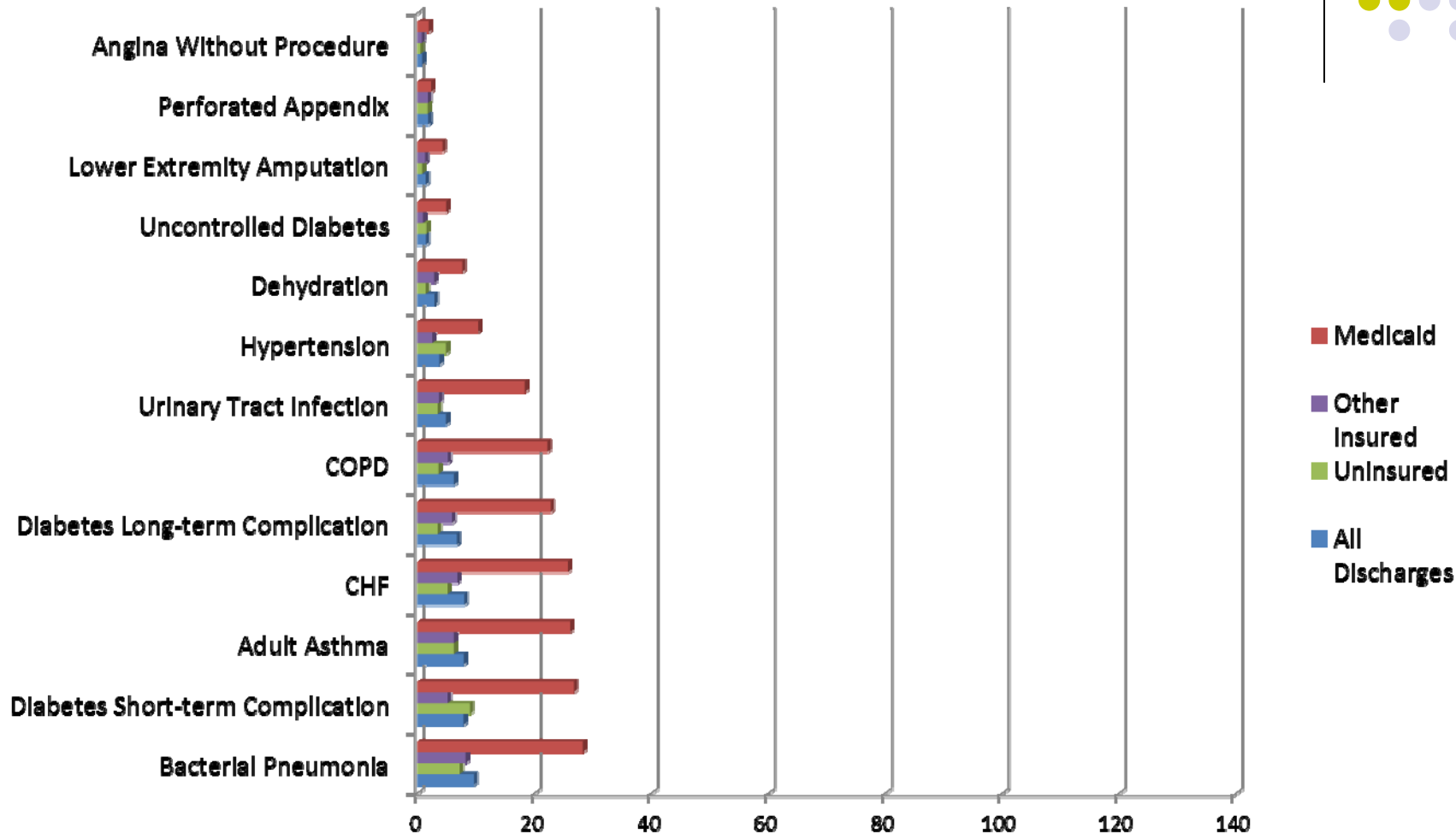
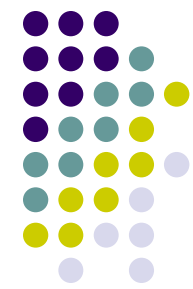
Rates per 10,000 persons, Age <18, North Carolina, FY2009)



¹ Developed by AHRQ,
http://www.qualityindicators.ahrq.gov/pqi_download.htm
Source: NC Hospital Discharge Data, Cecil G. Sheps Center for Health

Adult Prevention Quality Indicators - Ambulatory Sensitive Conditions ¹

Rates per 10,000 persons, Ages 19-54, North Carolina, FY2009



¹ Developed by AHRQ, http://www.qualityindicators.ahrq.gov/pqi_download.htm

NC Inpatient Discharge Data

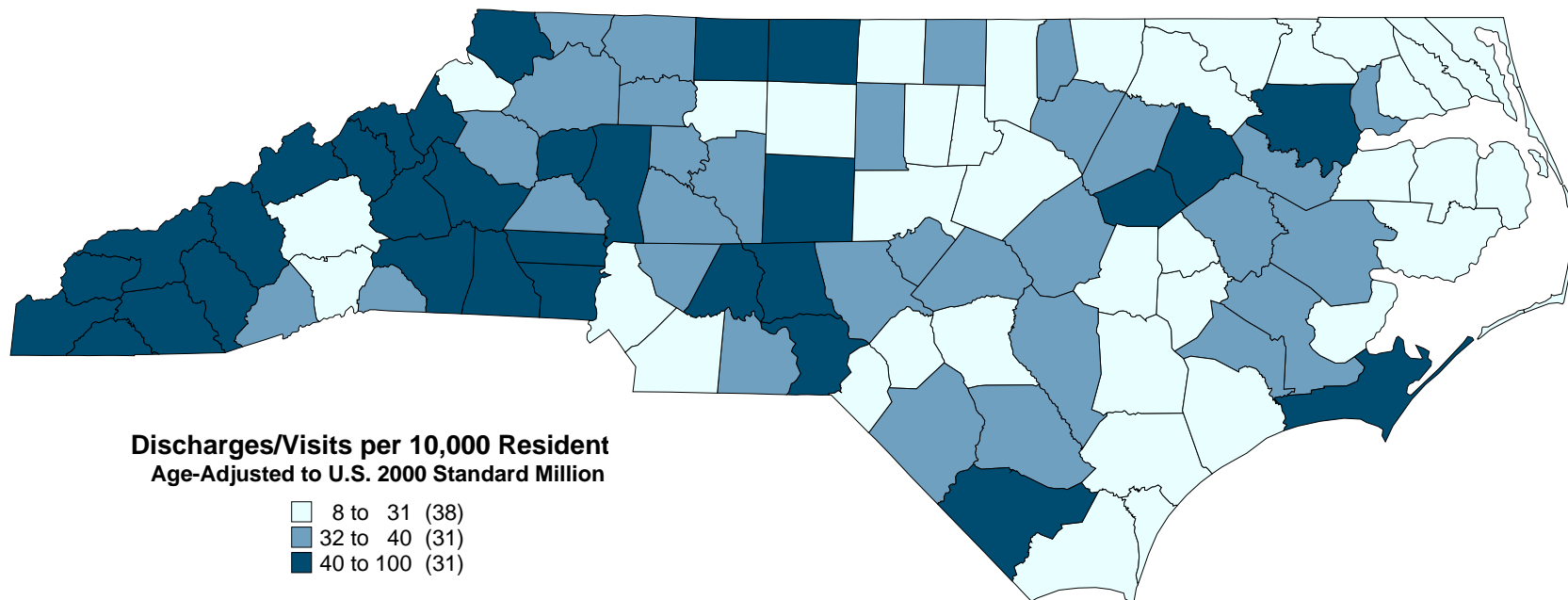
Improvement in collection of race data

Race	2009 N	2009 %	2010 N	2010 %
White	349,518	34.1	589,644	57.3
Black	118,419	11.5	207,895	20.2
Asian or Pacific Islander	3,785	0.4	9,479	0.9
American Indian / Eskimo / Aleut	10,599	1.0	15,234	1.5
Other Race	44,908	4.4	33,074	3.2
Unknown/Missing	498,673	48.6	173,956	16.9

SOURCE: Thomson Reuters NC Discharge Data, fiscal year 2009 and 2010, does not include normal newborns

Cholecystectomies per 10,000 Residents

Inpatient Discharges and Ambulatory Surgery Visits for North Carolina Residents
October 1, 2009 to September 30, 2010



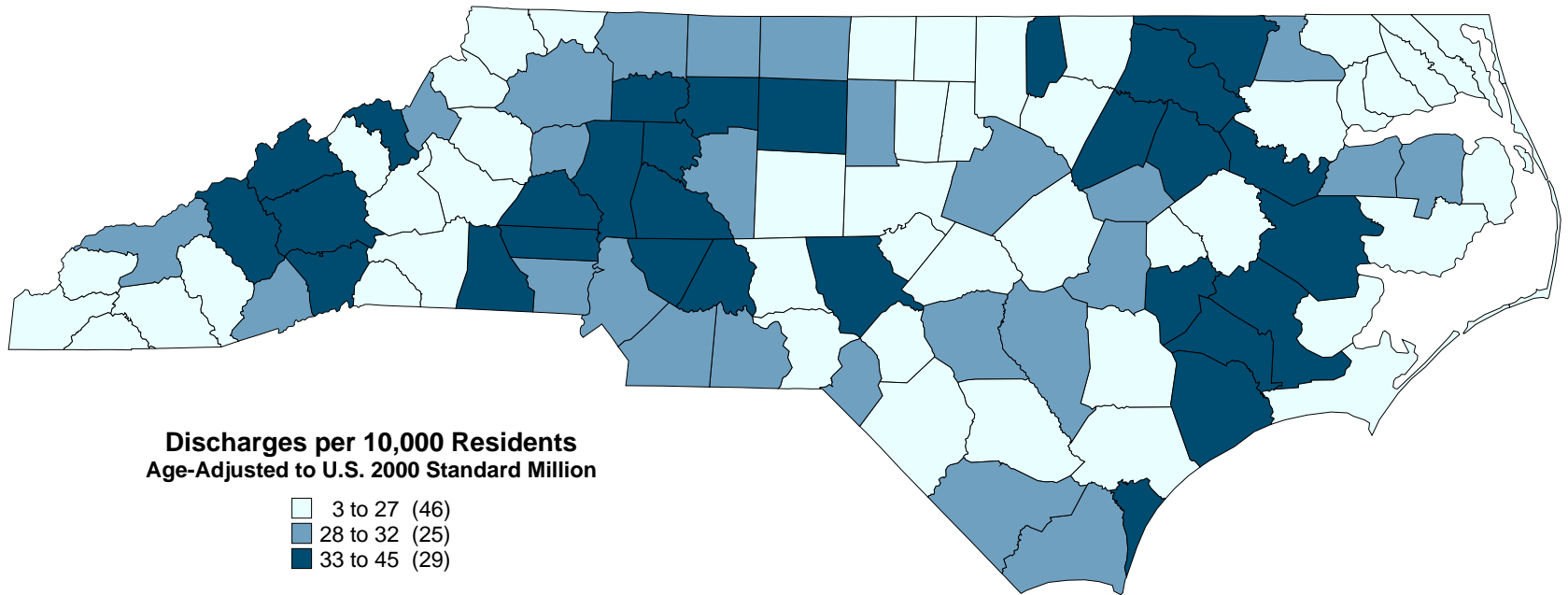
Note: Cholecystectomy discharges include DRGS 411-419 (inpatient)
or ICD-9 codes 51.21 - 51.24 (ambulatory)
or CPT codes 47562-47564, 47600, 47605, 47610, 47612, 47620 (ambulatory)

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Hospital Discharges for Major Joint Replacement of Lower Extremity per 10,000 Residents

Residents Discharged from North Carolina Hospitals: October 1, 2009 to September 30, 2010



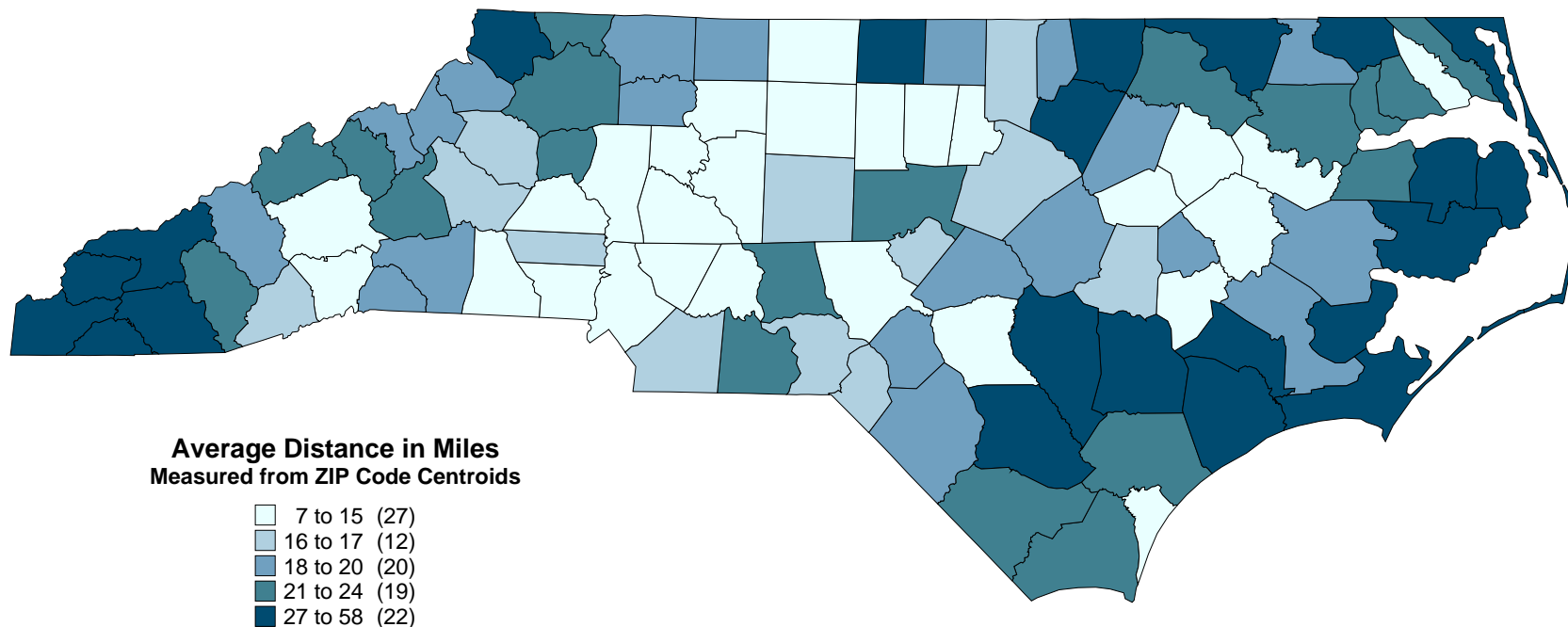
Note: Knee or Hip Replacement discharges include DRGs 466-470.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Average Distance to Care: Miles from Residence to Hospital

Residents Discharged from North Carolina Hospitals: October 1, 2009 to September 30, 2010



Note: Discharges from Psychiatric, Rehabilitation, Long Term Care, and Substance Abuse Treatment Facilities are not included.
Normal newborn discharges (DRG 795) excluded.

Source: Thomson Reuters North Carolina Hospital Discharge Data, Fiscal Year 2010.

Produced By: Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.