

# Trends in the Supply and Distribution of Optometrists in North Carolina

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THE CECIL G. SHEPS CENTER  
FOR HEALTH SERVICES RESEARCH

## Presentation overview

- What I covered in December, agenda for today
- Supply of optometrists - how many is enough?
  - Benchmark to national ratios
  - Monitor trends over time
- Distribution of optometrists - are they where we need them?
  - Rural versus urban
  - Health Professional Shortage Areas
- Demographic characteristics and hours worked

## Health Workforce Presentations: Past and Present

### December 16, 2013

- Physicians, dentists, new and emerging health professional roles in transformed health care system
- Graduate medical education for physicians: challenges and opportunities

### January 21, 2014

- Trends in the supply and distribution of optometrists
- Trends in supply, distribution of other health professionals (categories for which we have data)

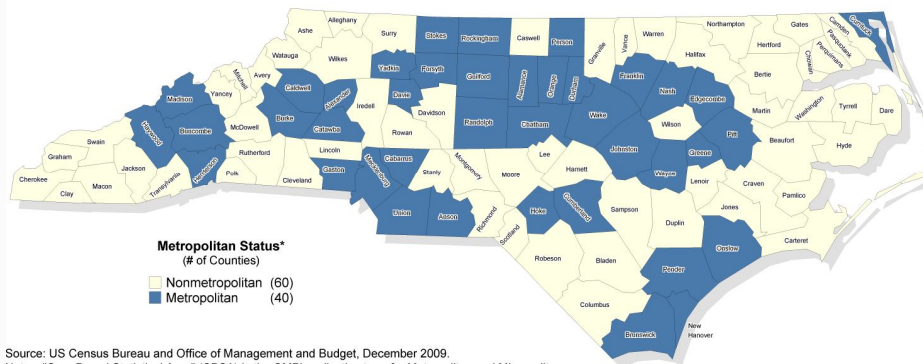
## But before we dive into the deep end of the data



## A short note on definitions

## Our rural definition: based on OMB's Core Based Statistical Areas

**Metropolitan Status\***  
North Carolina, 2009



Source: US Census Bureau and Office of Management and Budget, December 2009.

Notes: "Core Based Statistical Area" (CBSA) is the OMB's collective term for Metropolitan and Micropolitan statistical areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs.

Produced by the North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill



## What's a HPSA? And a PPHPSA?

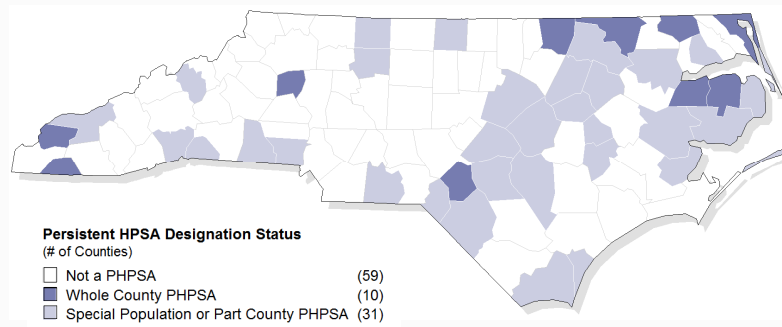
- Primary care HPSAs are counties designated by federal government (HRSA) as having:
  - inadequate number of primary health care professionals; or
  - population with unusually high needs for primary care; or
  - residents who face barriers to accessing primary care services
- **Persistent** HPSAs (PHPSAs) are counties designated as HPSAs from 1999 through 2009, or in 6 of the last 7 releases of HPSA definitions
- We use PHPSAs as proxy to identify counties facing persistent difficulty attracting and retaining health professionals

\*HRSA = Health Resources and Services Administration, US Department of Health and Human Services



## Persistent Primary Care Health Professional Shortage Areas\* (PHPSAs), North Carolina

### Persistent Primary Care Health Professional Shortage Areas\* (PHPSAs), North Carolina, 2010



Source: Area Resource File, HRSA, DHHS, various years.

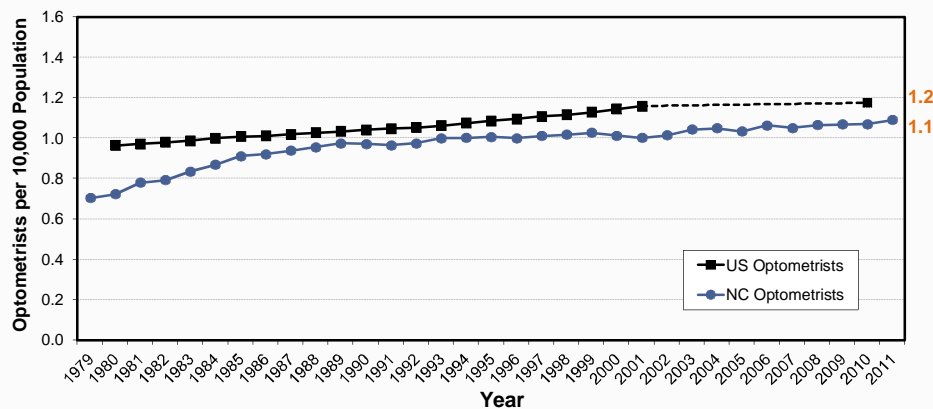
Note: Persistent HPSAs are those designated as HPSAs by the Health Resources and Services Administration (HRSA) from 2004-2010, or in 6 of the last 7 releases of HPSA definition.

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## North Carolina's supply of optometrists tracking with US supply

### Optometrists per 10,000 Population US and NC, 1979 to 2012



Figures include all licensed, active, in-state chiropractors. Note: The dashed line from 2003 to 2005 indicates smoothing because of unreliable data.

Sources: North Carolina Health Professions Data System, 1979 to 2012; U.S. Bureau of Labor Statistics, various years; HRSA, Bureau of Health Professions, NCHWA; North Carolina Office of State Planning. NC population data are smoothed figures based on 1980, 1990, 2000, and 2010 Censuses.



## 12 counties have no optometrists, and low supply in western and northeastern counties

- In 2011, there were 1,054 optometrists in active practice in North Carolina
- Twelve counties had no optometrists
  - All but one, Currituck, are rural counties
  - Seven have had no optometrists since 1993
  - Ten are in eastern North Carolina; Graham and Swain counties are in the far western part of the state
- Areas that have contiguous counties with low supply
  - Western NC: includes Avery, McDowell, Burke, Caldwell and Alexander counties
  - Northeastern NC: includes Northampton, Bertie, Gates, Currituck and Camden counties

## Or, if you like to see it in a picture.....

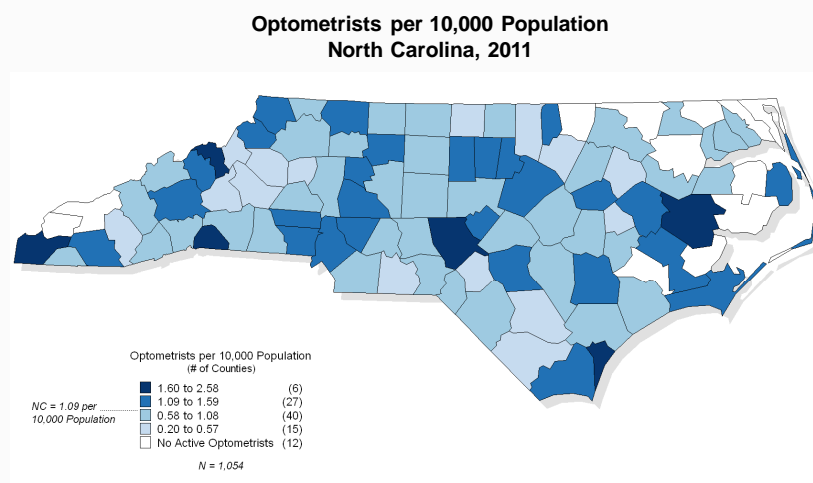
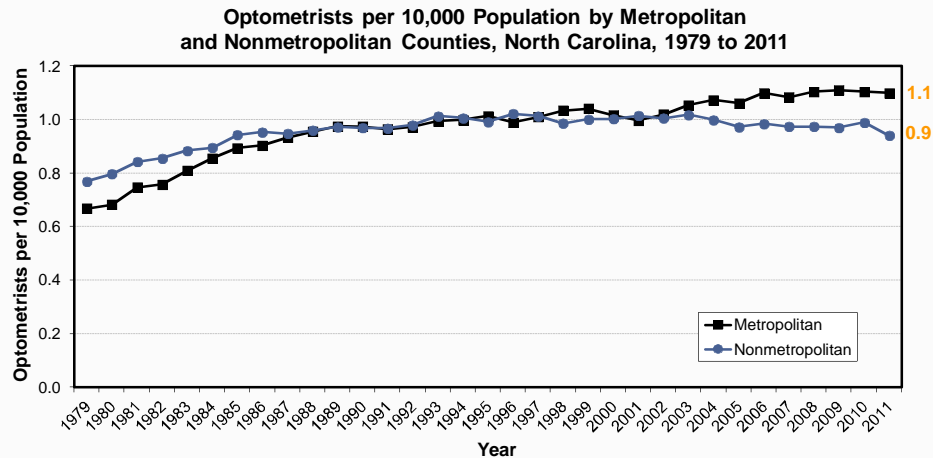


Figure includes all active, in-state optometrists licensed in NC as of October 31, 2011.  
Source: North Carolina Health Professions Data System, with data derived from the NC Board of Optometry, 2011.

## Historically, relative even distribution between urban and rural counties, but gap widening. Rural supply at lowest level since 1985

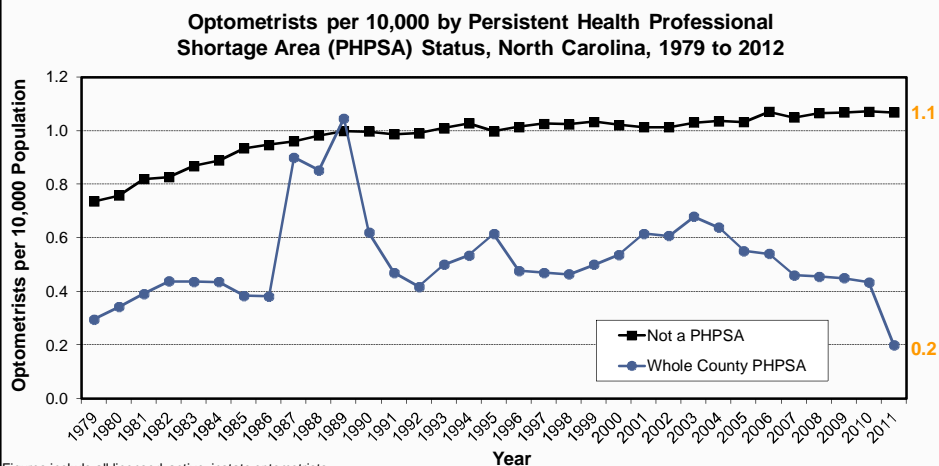


Figures include all licensed, active, in-state optometrists.

Sources: North Carolina Health Professions Data System, 1979 to 2011; North Carolina Office of State Planning; US Census Bureau & Office of Management and Budget, 2009 and 2013. North Carolina population data are smoothed figures based on 1980, 1990, 2000 and 2010 Censuses.



## Supply in non-HPSA counties has been steady while supply in Persistent HPSAs has been declining



Figures include all licensed, active, in-state optometrists.

Sources: North Carolina Health Professions Data System, 1979 to 2012; NC Office of State Planning; Area Resource File, HRSA, Department of Health and Human Services, 2000-2012. North Carolina population data are smoothed figures based on 1980, 1990, 2000, and 2010 Censuses. Persistent HPSAs are those designated as HPSAs by HRSA from 1999 through 2010. PHPSA calculations from 2011 onward completed using most recent 7 HPSA designations.



## No real threat from mass retirement. Female optometrists an average 11 years younger than male optometrists

### Optometrists by Age, 2011

Age	Number	Percent
30 and younger	125	11.9%
31-40	276	26.2%
41-50	255	24.2%
51-60	272	25.8%
61-70	89	8.4%
71 and Older	37	3.5%

Mean Male age=50  
Mean Female Age=39  
Mean age total=46

Figure includes all active, in-state optometrists licensed in NC as of October 31, 2011.  
Source: North Carolina Health Professions Data System, with data derived from the NC Board of Optometry, 2011.



## Increasing proportion of women in the optometrist workforce

### Optometrists by Sex North Carolina, 1996 and 2011

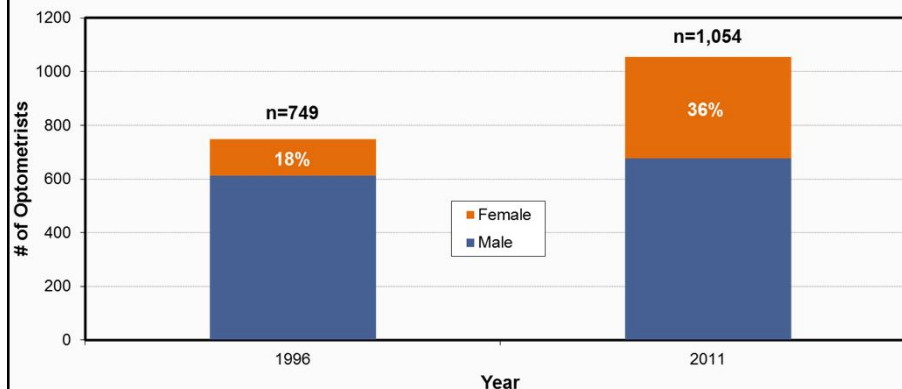


Figure includes all active, in-state optometrists licensed in NC as of October 31 of the respective year.  
Source: North Carolina Health Professions Data System, with data derived from the NC Board of Optometry, 1996-2011.



## “Effective” workforce supply is driven by FTE, not headcount

Average Hours Worked per Week by Sex  
Optometrists, North Carolina, 1996-2011

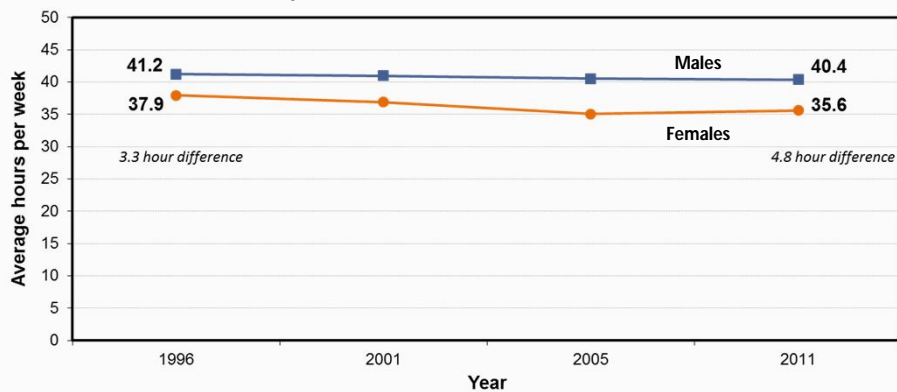


Figure includes all active, in-state optometrists licensed in NC as of October 31 of the respective year.  
Source: North Carolina Health Professions Data System, with data derived from the NC Board of Optometry, 1996-2011.



## Questions?

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