Challenges and Opportunities Facing the North Carolina Health Workforce

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Program on Health Workforce Research and Policy

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UNC
THE CECIL G. SHEPS CENTER
FOR HEALTH SERVICES RESEARCH

Key Takeaways

- Sheps Center houses health workforce data and expertise that are invaluable to UNC system and state policy makers
- Allied health workforce studies were funded in past by the Duke Endowment and Council for Allied Health
- State is facing significant health workforce challenges that UNC system's health programs are well positioned to address
- Efforts to address workforce challenges are congruent with UNC System goals to increase access, affordability, student success and economic impact

Health workforce trends

- Health care jobs generally will continue to grow rapidly
- Supply has increased but workforce remains persistently maldistributed
- Racial/ethnic diversity of workforce does not match population
- Changing care delivery and payment models are:
  - shifting care and workforce from inpatient to community settings
  - generating new professions and roles
- Career ladders are needed

Past allied health workforce studies: funding

Multiple sources supported Sheps allied health workforce analyses; total direct support approximately $440K from over 11 years (2001-12)

The Duke Endowment via NC AHEC, CAHNC, 2001-2007

- Supported 3 profession-specific reports (rad sci, respiratory therapy, clinical lab sci), 1 state of allied health brief, 3 AH job vacancy tracking reports

NC Hospital Association, 2007-2008

- Produced “North Carolina Hospital Workforce Trend Analysis, 2004-2006”

HRSA via NC Commerce, 2010-2012

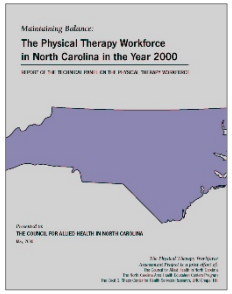
- State health workforce planning grant helped support 1 state of allied health brief, 3 AH job vacancy tracking reports

**CAHNC = Council for Allied Health in North Carolina*

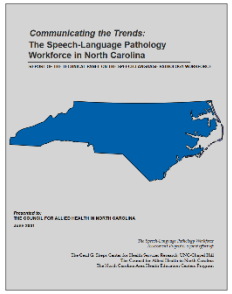
Past allied health workforce studies: products

In collaboration with AHEC and the CAHNC from 1999-2012, produced in-depth profession reports, shorter profession briefs, state of allied health fact sheets, allied health job vacancy tracking reports; also gave many, many presentations

2000



2001



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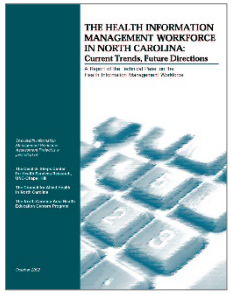

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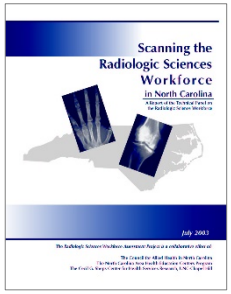
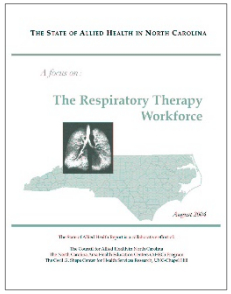
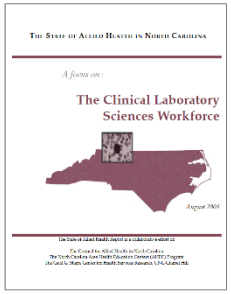
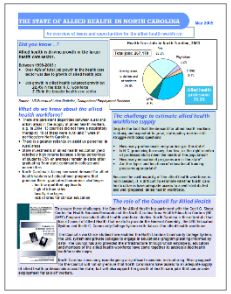


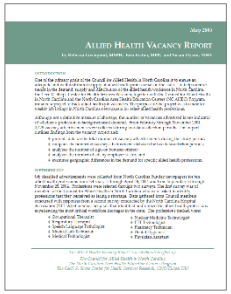
2004





2005





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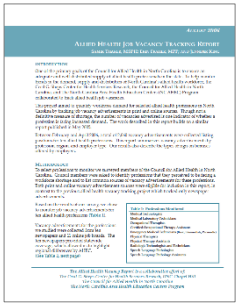
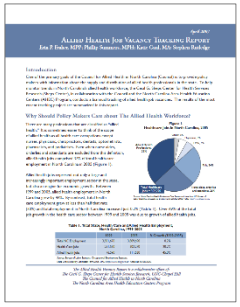


2007



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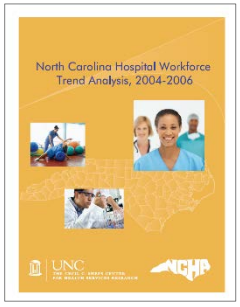
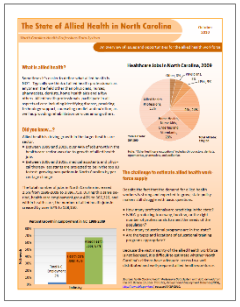


2010



2011

2012

Strong history of producing workforce studies to support UNC System program planning

Recently conducted studies for UNC System (2017-18)

- Potential health sciences school at UNC-P
- Feasibility of physician assistant program at WSSU
- Feasibility of chiropractic medicine program at WSSU
- Evaluating outcomes of NC medical training programs

Older studies for UNC System – *data to support decisions about*

- New optometry program in NC (2015)
- Pharmacy workforce in NC – updated report (2014)
- New school of pharmacy at UNC-G and UNC-CH (2010)
- New dental school at ECU (2007)

Older studies for NC Community College System

- A Study of Associate Degree Nursing Program Success (2008)

We house longitudinal data on variety of licensed health professions

- Physicians (MDs and DOs)
- Physician Assistants
- Dentists
- Dental Hygienists
- Optometrists
- Pharmacists
- Physical Therapists
- Physical Therapist Assistants
- Respiratory Therapists *(2004)*
- Registered Nurses
- Nurse Practitioners
- Certified Nurse Midwives *(1985)*
- Licensed Practical Nurses
- Chiropractors
- Podiatrists
- Psychologists
- Psychological Associates
- Occupational Therapists *(2006)*
- Occupational Therapy Assistants *(2006)*

NC has some of best workforce data in nation for workforce studies

Data elements that ***usually*** don't change

- Name
- Date and place of birth
- Race/ethnicity
- Gender
- Basic professional degree *(degree conferred, name and location of institution attended, practice qualifications)*
- Unique identifier

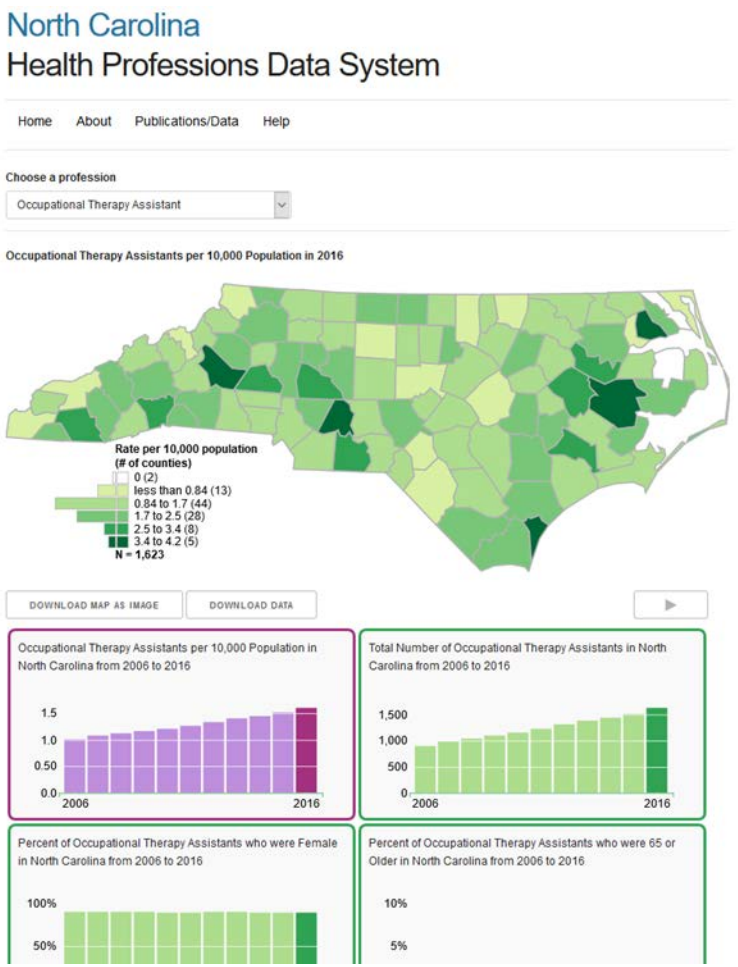
NC has some of best workforce data in nation for workforce studies

Data elements that ***may*** change and are updated annually:

- Employment address
- Home address
- Type of position
- Employment setting
- Clinical practice area
- Activity status *(retired, active practice, not employed in profession)*
- Average hours per week/employment status
- Highest degree
- Foreign language ability *(for select professions)*

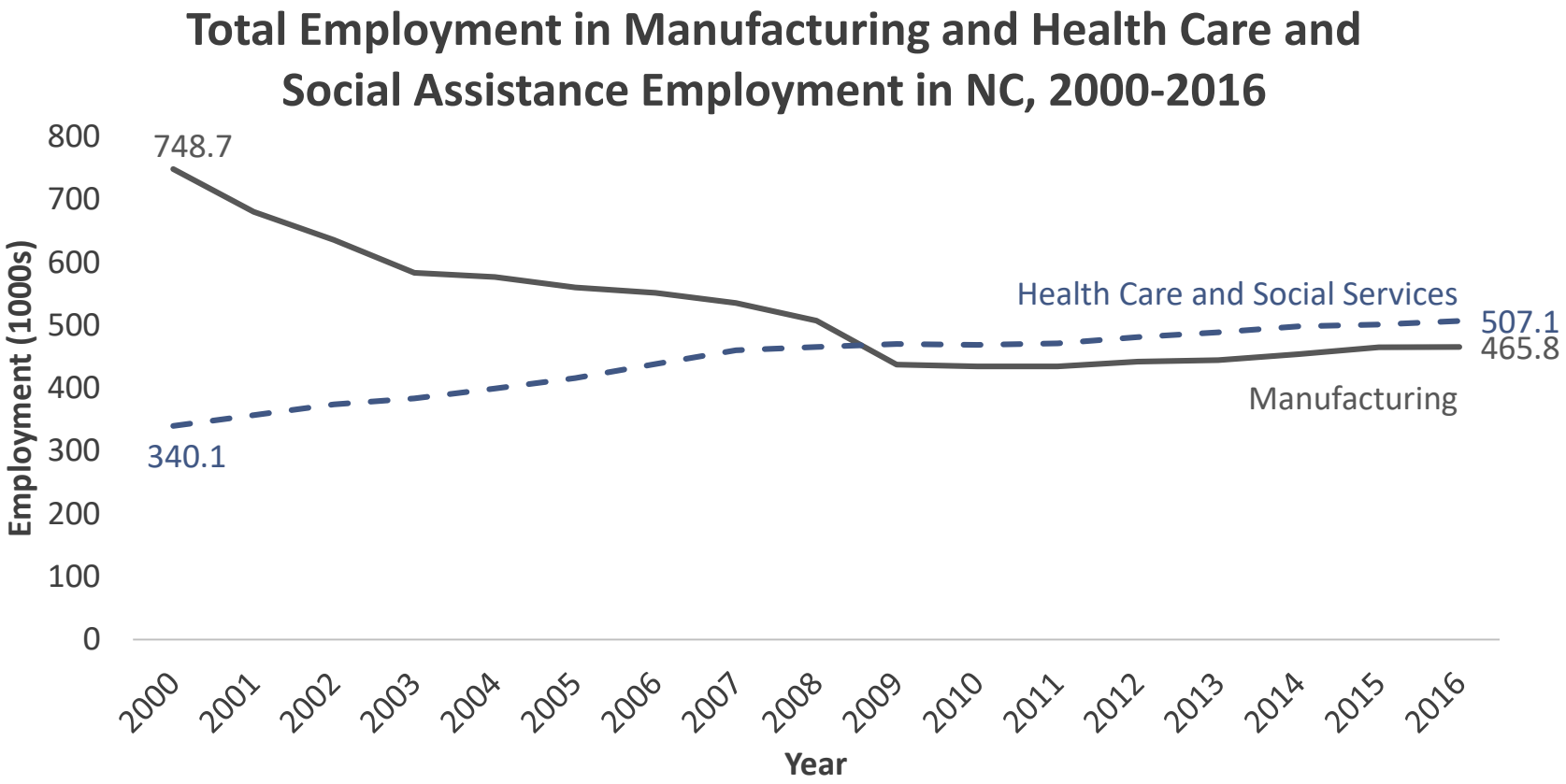
In May 2017, converted Data Book to online, interactive data visualization tool

- Explore 15 years of data on over a dozen health professions in NC
- Total supply, supply per 10K, percent female, percent over 65, percent minority
- State and county-level data
- Interactive map and bar charts
- Can download data for use in presentations or for analysis
- nchealthworkforce.sirs.unc.edu



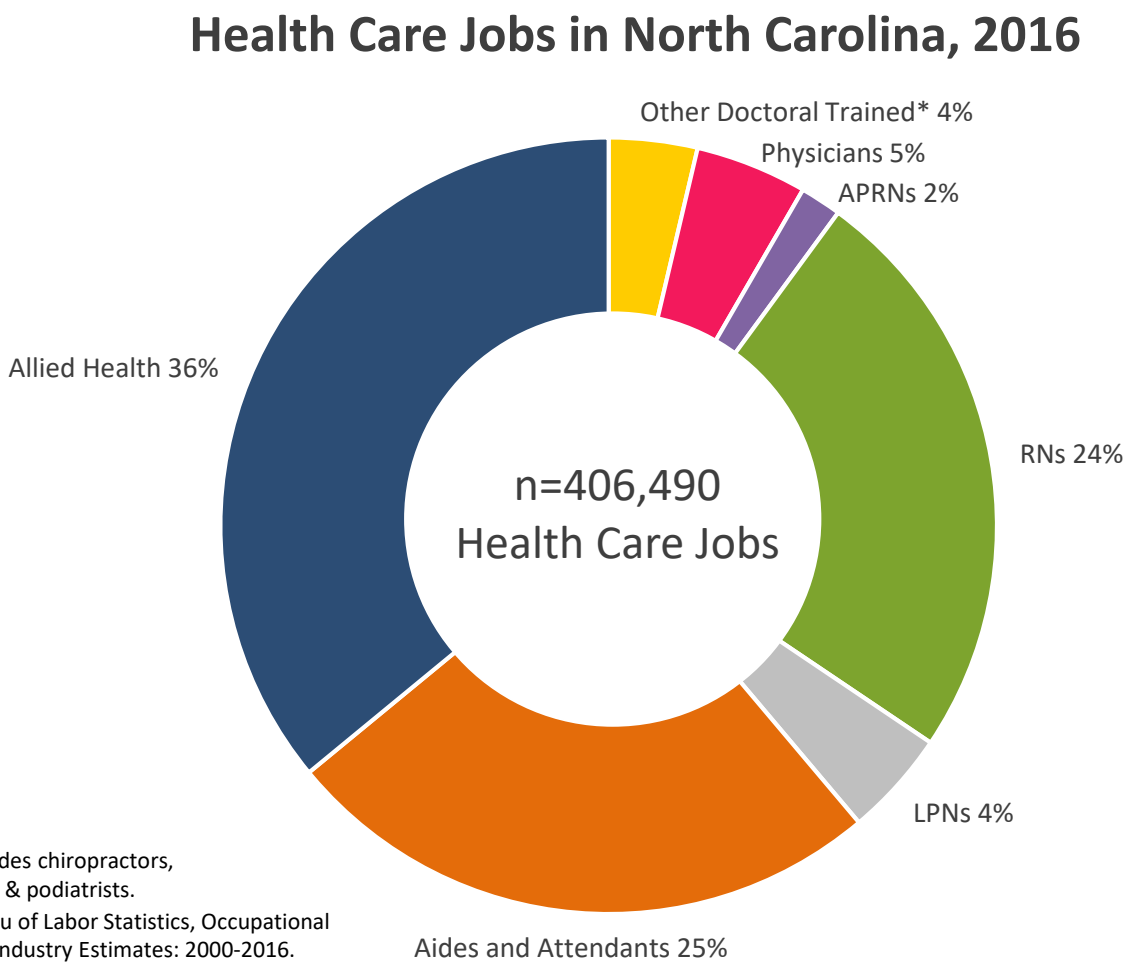
Health care jobs will continue to grow rapidly

In 2009, health care jobs surpassed manufacturing jobs



Source: North Carolina Health Professions Data System with data derived from the North Carolina Department of Commerce Labor and Economic Analysis Division, Current Employment Statistics (CES), 2000-2016. Data include unadjusted employment as of October of the given year. Downloaded on April 12, 2017 from: http://d4.nccommerce.com/CesSelection.aspx.
Produced By: Program on Health Workforce Research & Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

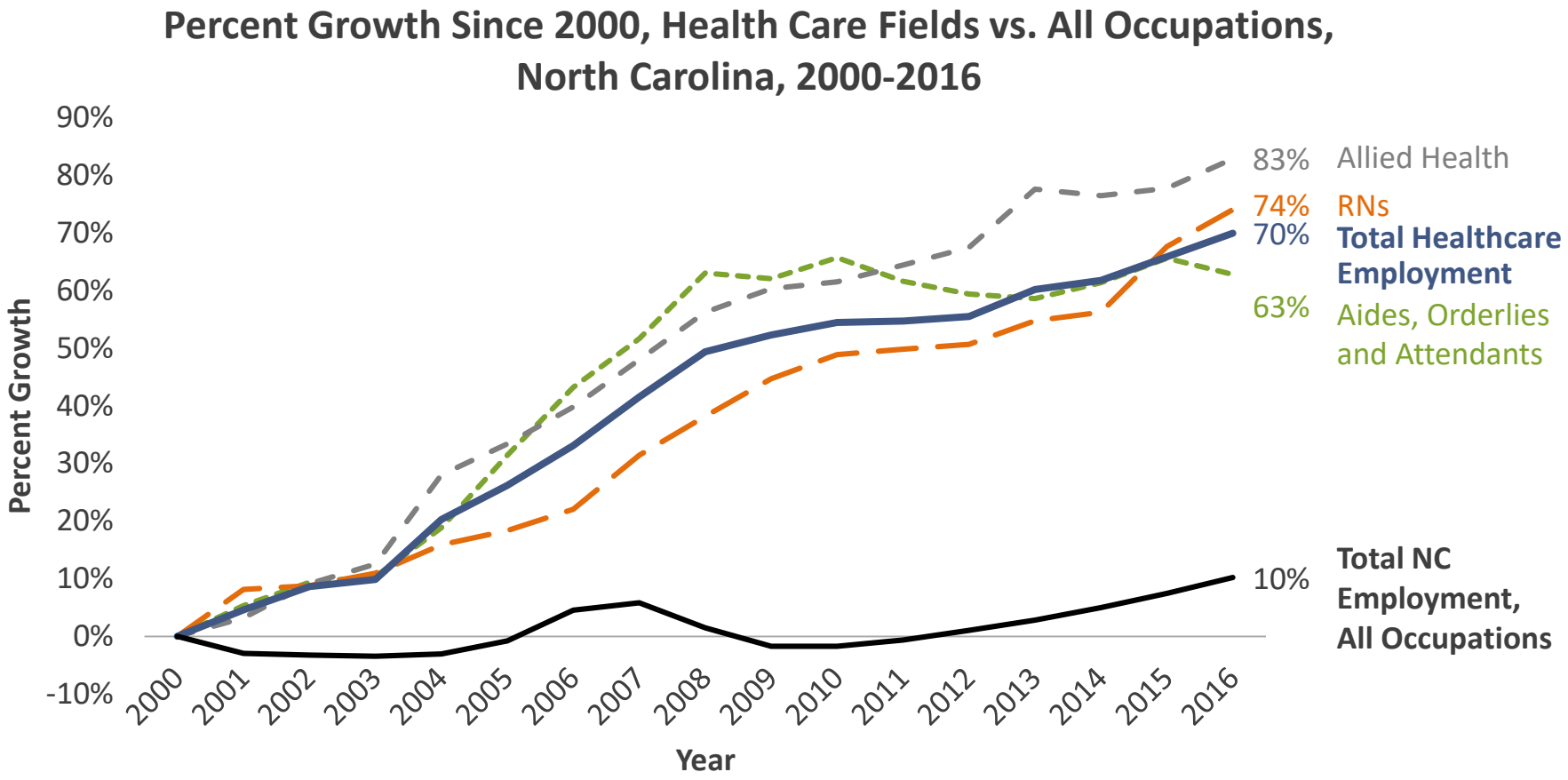
Two of every three health care jobs is in allied health or nursing



*Note: Other Doctoral Trained includes chiropractors, dentists, optometrists, pharmacists, & podiatrists.

Source: Data derived from US Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 2000-2016. URL: http://www.bls.gov/oes/oes_dl.html. Accessed 12 April 2017

Nursing and allied health jobs have grown rapidly

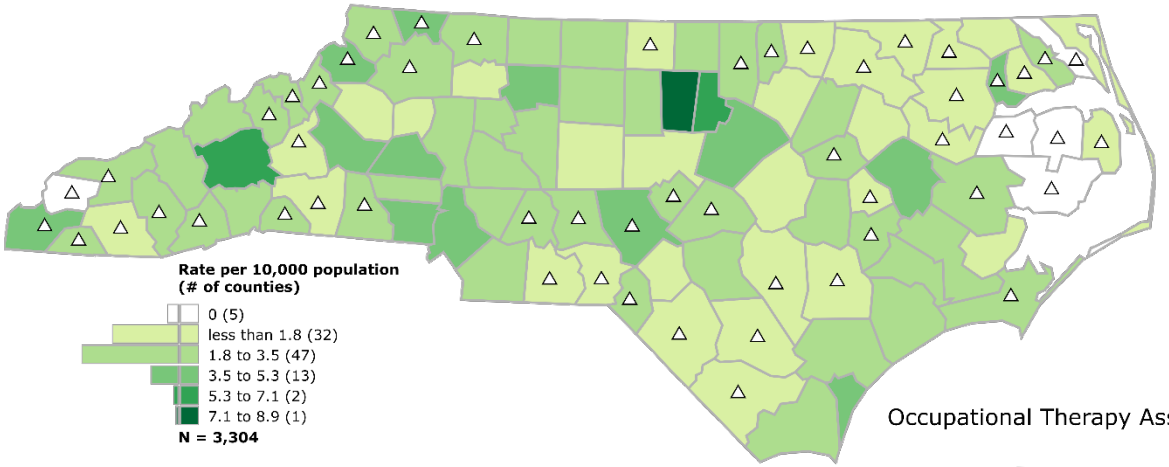


Source: North Carolina Health Professions Data System with Data derived from US Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 2000-2016. URL: http://www.bls.gov/oes/oes_dl.html. Accessed 12 April 2017.
Produced By: Program on Health Workforce Research & Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

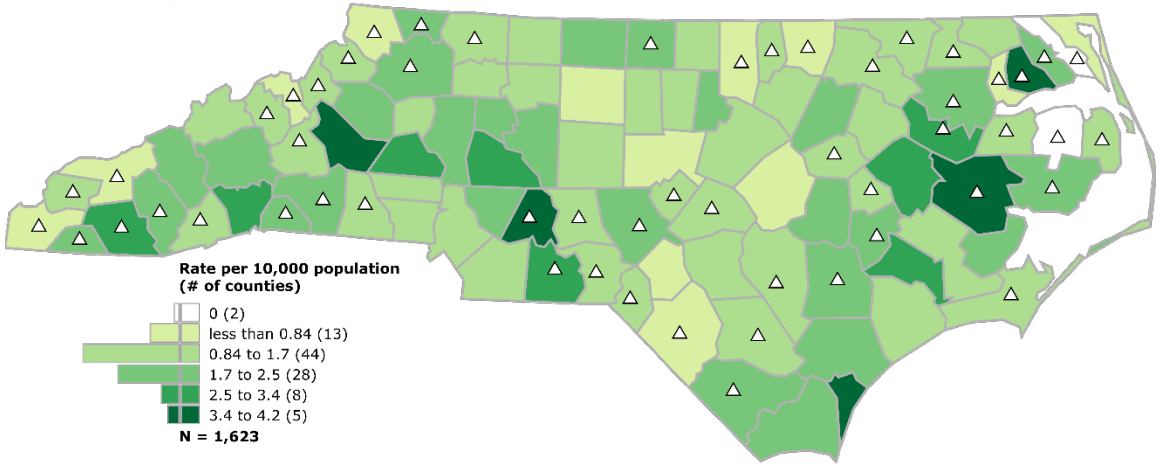
Supply has grown but workforce remains persistently maldistributed

Rural areas have fewer professionals. Assistants generally better distributed than therapists

Occupational Therapists per 10,000 Population in 2016



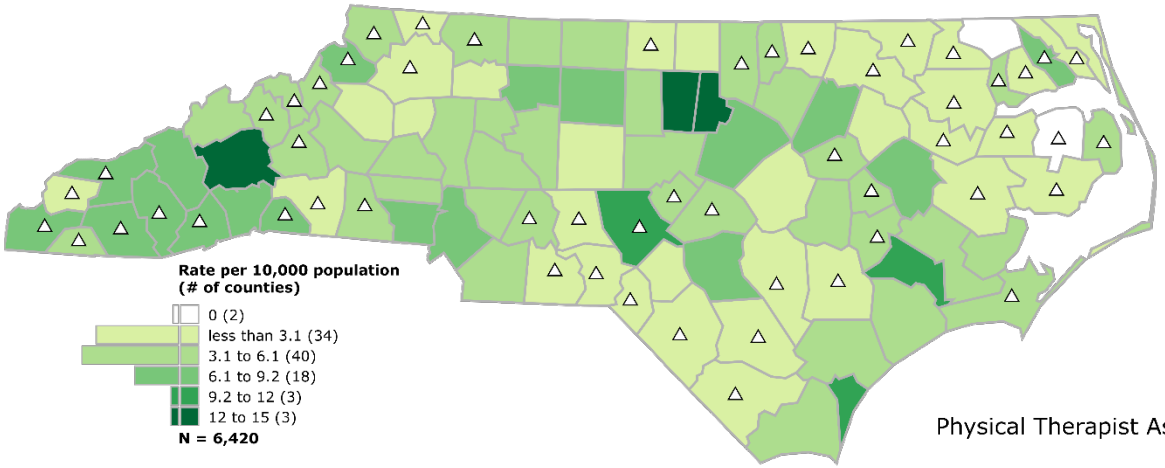
Occupational Therapy Assistants per 10,000 Population in 2016



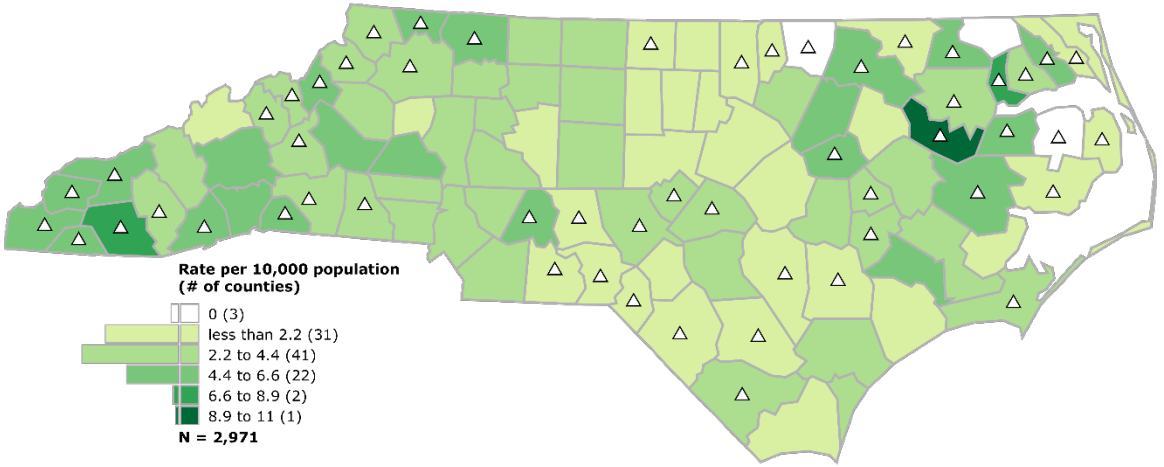
Rural (nonmetropolitan) county

Rural areas have fewer professionals. Assistants generally better distributed than therapists

Physical Therapists per 10,000 Population in 2016



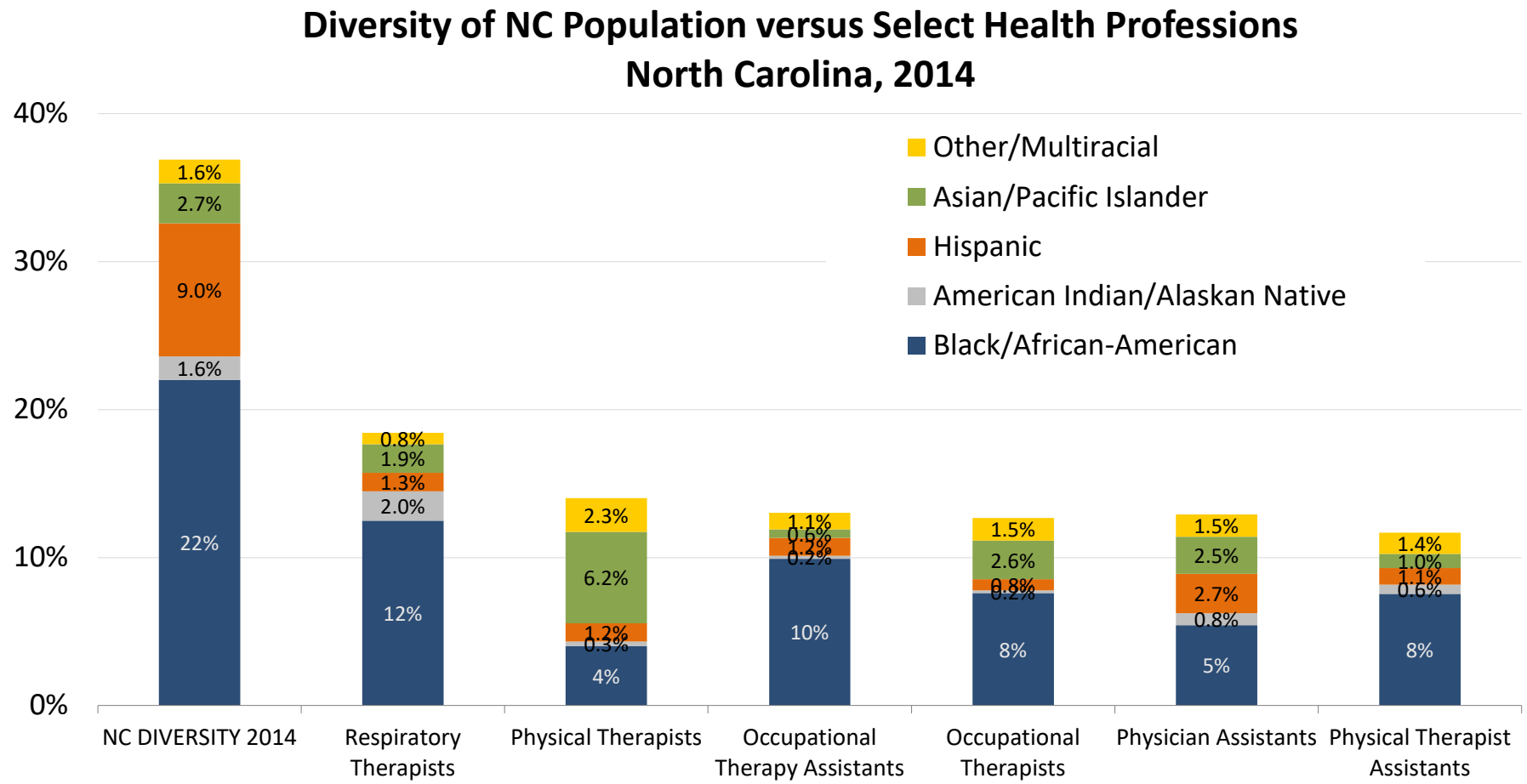
Physical Therapist Assistants per 10,000 Population in 2016



△ Rural (nonmetropolitan) county

Racial/ethnic diversity of workforce does not match NC's population

Diversity of workforce has improved but still lagging



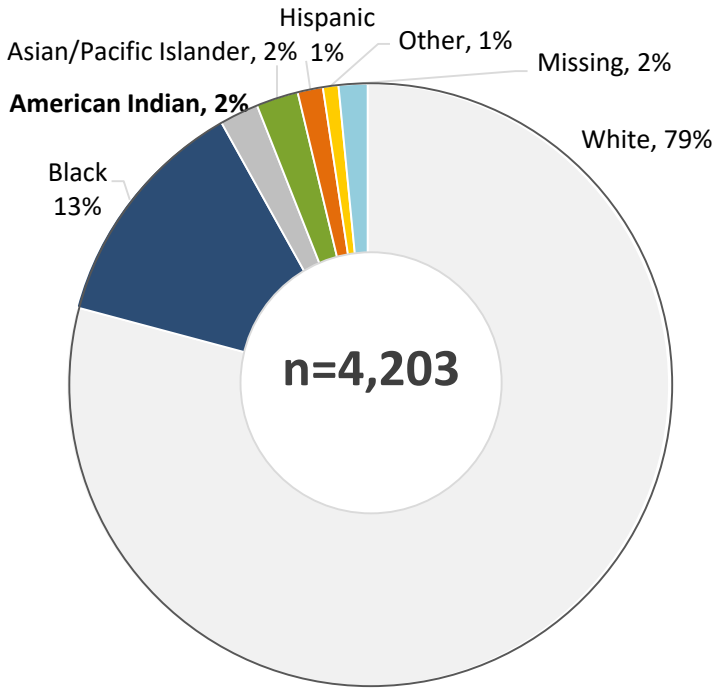
Sources: North Carolina Health Professions Data System with data derived from North Carolina licensing boards, 2014. Figures include active, instate, dentists, nurses, pharmacists, PTs, OTs and optometrists and active, instate non-federal, non-resident-in-training physicians licensed as of October 31 of the respective year.
Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Increased efforts needed to recruit Hispanic, African-American and Native American students into health professions

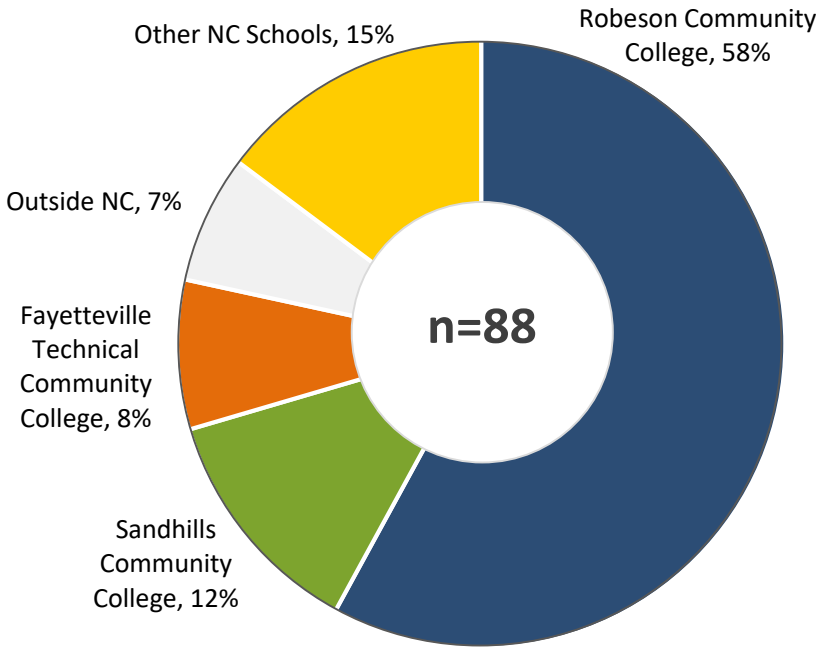
- African-American population has remained stable (~22% of population) over past 25 years. Yet blacks are dramatically underrepresented in workforce, ranging from 2.5% of optometrist workforce to 12.5% of respiratory therapy workforce
- NC's Hispanic population increased from 1.2% in 1990 to 9% of pop in 2014. Hispanics make up 2.9% of physicians, 2.7% of physician assistants and 1.8% of dentists
- Native American population also underrepresented in health workforce but there are some success stories…

2% of Respiratory Therapists are American Indian. 58% of them were trained at Robeson Community College.

Race of Respiratory Therapists in North Carolina, 2016

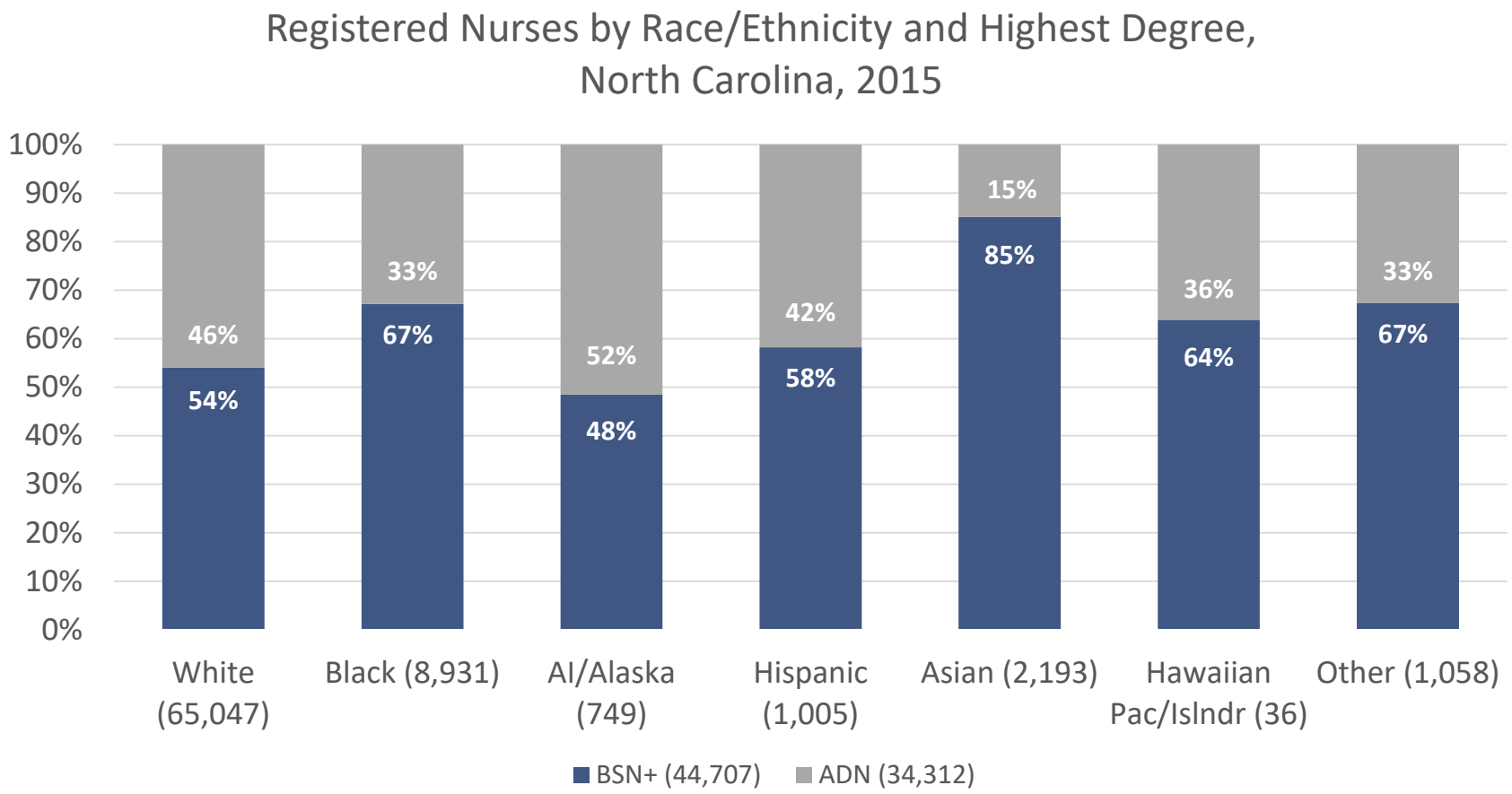


American Indian Respiratory Therapists Practicing in North Carolina, 2016



Sources: North Carolina Health Professions Data System with data derived from North Carolina Respiratory Care Board, 2016. Figures include active, instate respiratory therapists licensed as of October 31, 2016. Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

HBCUs making important contribution to BSN-prepared nursing workforce



Sources: NC Health Professions Data System with data derived from the NC Board of Nursing, 2015. Note: Figures include active, instate registered nurses licensed as of October 31 of the respective year. Data exclude 7,567 RNs whose highest degree is outside of nursing and 5,792 RNs whose highest degree is a diploma. 233 RNs were missing race data and 7,523 were missing data on highest degree. Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Moving from NC to the nation….

We are one of seven federally funded Health Workforce Research Centers

The Sheps Center houses the **Carolina Health Workforce Research Center**

Center's Mission: conduct and disseminate timely and policy-relevant research that enables policy makers to swiftly respond to the challenge to train, retrain, deploy and retain a highly skilled, culturally competent, diverse and high value health workforce.

Director:	Erin Fraher, PhD, MPP
Deputy Director:	Thomas Ricketts, PhD, MPH
Investigators:	Multi-disciplinary group of researchers representing health policy, medicine, nursing, public health, social work; allied health and other professions
Funding:	From the Bureau of Health Workforce, Health Resources and Services Administration, $4.3 million, plus one-time supplements; 2013-2022

Relevant HWRC projects – allied health and social work

- **Use of Physical and Occupational Therapists in the Acute Care to Community Transition Following Stroke**
  - Describe factors associated with use of PTs & OTs following stroke and the extent to which PT/OT use decreased rehospitalization.
- **Integration of Rehabilitation Care from the Acute to Community Setting: The Role of Physician Referral**
  - Describe ambulatory care physicians' referrals to PT over time and by characteristics; identify physician- and patient-level predictors of referral
- **Toward a Better Understanding of Social Work Roles and Functions on Integrated Care Delivery Teams**
  - Understanding the roles of social workers in PCMHs and the barriers/facilitators to deploying social workers on interprofessional teams.

http://www.shepscenter.unc.edu/programs-projects/workforce/projects/carolina-health-workforce-research-center/

Other federal workforce efforts

- University of Washington Center working on allied health https://depts.washington.edu/fammed/chws/

- National Center for Health Workforce Analysis is conducting health workforce projections in allied health including dieticians, dental hygienists, therapy professions and others https://bhw.hrsa.gov/health-workforce-analysis/research/projections

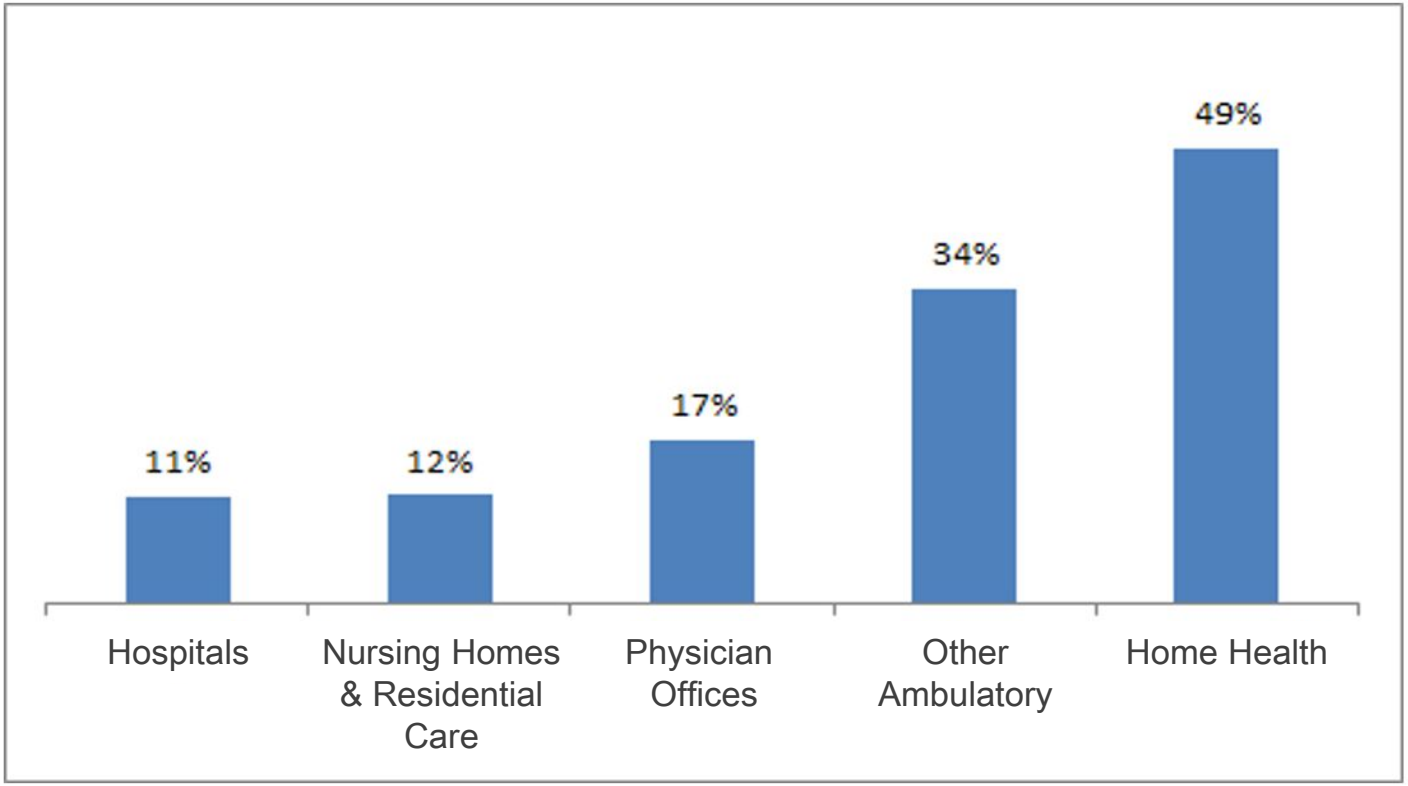
Looking ahead: workforce roles and employment settings are changing

Workforce is shifting from acute to community settings

- Changes in payment policy and health system organization have resulted in:
  - Shift from fee-for-service toward risk- and value-based models
  - Fines that penalize hospitals for readmissions
- Will increasingly shift health care — and the health care workforce — from expensive inpatient settings to ambulatory, community and home-based settings
- But we generally educate health workers in inpatient settings
- Current workforce not adequately prepared to work in ambulatory settings and patients' homes

Fastest job growth has been in ambulatory care and home health

Exhibit 1: Health Care Job Growth by Setting: December 2007–January 2017



Source: Authors' analysis of BLS Current Employment Statistics data.

Source: http://healthaffairs.org/blog/2017/03/17/whats-behind-2-5-million-new-health-jobs/

Increased focus on population health requires broader definition of the health workforce

***Population health* requires us to:**

- Expand workforce planning efforts to include workers in community and home-based settings
- Embrace the role of social workers, patient navigators, community health workers, home health workers, community paramedics, dieticians and other community-based workers
- Plan for workforce needs of patients and communities, ***not*** for needs of professions
- Determine how to integrate the public health workforce into health workforce planning

And new health care teams are emerging: Community Aging in Place—Advancing Better Living for Elders (CAPABLE) Teams

- An Occupational Therapist, a Registered Nurse, and a handyman form team allowing seniors to age in homes
- Provide assistive devices and make home modifications to enable participants to navigate their homes more easily and safely
- After completing five-month program, 75 percent of participants (n=281 adults age 65+) had improved their performance of ADLs
- Symptoms of depression and ability to perform instrumental ADLs such as shopping and managing medications also improved
- Health systems are testing CAPABLE on a larger scale

http://nursing.jhu.edu/faculty_research/research/projects/capable/

Source: Szanton SL, Leff B, Wolff JL, Robers K, Gitlin LN. (2016). Home-Based Care Program Reduces Disability And Promotes Aging In Place. *Health Affairs*; Sep 1;35(9):1558-63.

Social workers play increasingly important boundary spanning roles

Social workers serving three functions on integrated behavioral health/physical health teams:

- Behavioral health specialists: provide interventions for patients with mental health, substance abuse and other behavioral health disorders
- Care managers: coordinate care of patients with chronic conditions, monitor care plans, assess treatment progress and consult with primary care physicians
- Referral role: connect patients to community resources including housing, transportation, food, etc.

Fraser M, Lombardi B, Wu S, Zerden L, Richman E, Fraher E. Social Work in Integrated Primary Care: A Systematic Review. Carolina Health Workforce Research Center, Program on Health Workforce Research and Policy, Sheps Center for Health Services Research. September 2016. http://www.shepscenter.unc.edu/wp-content/uploads/2016/12/PolicyBrief_Fraser_y3_final.pdf.

Developing the workforce to meet the health and education needs of NC's population

We need to better connect education to practice…

"Revolutionary changes in the nature and form of health care delivery are reverberating backward into…education as leaders of the new practice organizations demand that the educational mission be responsive to their needs for practitioners who can work with teams in more flexible and changing organizations…"

- But education system is lagging because it remains largely insulated from care delivery reform
- Need closer linkages between health care delivery and education systems

Source: Ricketts T, Fraher E. Reconfiguring health workforce policy so that education, training, and actual delivery of care are closely connected. *Health Aff* (Millwood). 2013 Nov;32(11):1874-80.

…and redesign education to support new roles

- Retrain and upgrade skills of the ~500,000 health care workers already practice in NC– ***they are the ones who will transform care***
- Training must be convenient – timing, location, and financial incentives must be taken into consideration
- Need to prepare faculty to teach new roles and functions
- Clinical rotations need to include "purposeful exposure" to high-performing teams in ambulatory settings
- Need to redesign education system so workforce can flexibly gain new skills and competencies throughout career

Need “model” teaching sites in rural communities

- We need rural teaching health centers (like Roanoke-Amaranth), rural teaching hospitals and rural teaching long-term care facilities to prepare a rural workforce that is innovative and focused on quality and population health. Model teaching sites would also create exciting work places that will keep students in rural communities after graduation. We need to:
  - Create more community-based rotations for health professional students
  - Support truly integrated models of behavioral health and primary care. Put particular focus on integrating social workers into primary care settings

Need to foster stronger academic-practice partnerships

- Employers need to work with educational institutions to develop modular courses for currently employed workers to promote a more flexible workforce with skills needed in a transformed health system
- The alternative might be unemployment if, for example, nurses are not able to make the transition from inpatient to outpatient facilities as the jobs move there
- Need more training in new roles such as patient navigation, care coordination, informatics, and patient coaching

Support increased access to health professions jobs for rural students and underrepresented minorities

- Access to health care in rural communities is important but so is access to employment in health care
- Support efforts to increase diversity in nursing and allied health and fund efforts that get more African American men into medicine and dentistry
- Expand definition of diversity to include socio-economic status. Consider ways to get more students from Tier 1 counties into medical school, nursing etc.
- Work with community college system to develop career ladders

We can help you get there: Sheps tools and resources

- Data
- Ability to translate data into robust, policy-relevant graphs, maps, charts etc.
- Visualizations
- Workforce modeling capability
- Connections to educators, regulators, professional associations
- Neutral player
- Nationally recognized expertise

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