Transforming Data into Action to Drive Workforce Policy and Planning in North Carolina

Erin P. Fraher, PhD MPP, Director
Emily McCartha, PhD Research Associate
Program on Health Workforce Research & Policy

Michelle Ries MPH, Associate Director
NC Institute of Medicine

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Today's Agenda

We want to engage with you to understand:

1. What types of workforce data and information do you need? What problems are you trying to solve?
2. How would you use evidence to DRIVE action?
3. What's the best way to deliver data to you?
   Dashboards, interactive visuals, data briefs, presentations, technical assistance, social media, other?

Jamboard link (also in chat):
https://jamboard.google.com/d/1EDWT9D9CRFNeYcs0zDbaueclD34O-gvmXXYYWxe1iHA/edit?usp=sharing

Where Today's Conversation Fits

ACCESS	SYNTHESIS	ACTION
The NC Center on the Workforce for Health provides access to the data, information, reports and tools that leaders need to make data-driven decisions to achieve their organizations' workforce goals.	The NC Center on the Workforce for Health provides opportunities to dig into what the data mean, filter out the most meaningful information, and generate insights and ideas to help organizations and our state take effective action to support our workforce goals. .	The NC Center on the Workforce for Health brings people together to inform large-scale policy and system change solutions that need collaborative action. The Center provides support to NC leaders working together to achieve solutions that serve the larger health ecosystem.

We want to understand your needs, hopes and dreams

The data you need, the problems you are trying to solve and the ways you will use data to drive action will differ depending on who you are:

- Employer
- Educator
- Policy Maker

There are at least two kinds of data needed. Data that help you:

1. **Target Action**: What projects or policies would data inform?
2. **Measure Return on Investment**: How would you use data to evaluate programs or policy?

Employer Perspective: Sample Questions

- Do we have the workforce we need now and to grow our services where they are needed in the future?
- How will new payment models affect number, skill mix and location of workforce?
- What are best practices to:
  - recruit workers?
  - retain workers?
  - reduce burnout?
  - prevent and address workplace violence?
  - develop new models of care that optimize workforce?
  - identify and scale workforce innovations?

Educator Perspective: Sample Questions

- What programs do we need to open/expand to meet local, regional and state health needs—both now and in the future?
- Are our graduates retained in NC? Are they practicing in needed geographies?
- What settings are graduates working in and how well do these settings align with clinical placements?
- Where is our pipeline leaking and what can we do to plug the leak?
- What educational programs are needed to:
  - retool and retrain existing workforce?
  - develop seamless career ladders?

Policy Maker Perspective: Sample Questions

- How do we develop the workforce needed to support policy proposals such as the roadmap to invest $1B in behavioral health?
- How will Medicaid expansion affect demand for different health professional groups in different geographies and employment settings?
- Where are there providers who are not contracted with plans?
- How are other states addressing health workforce needs?
- Are public investments in training programs and loan repayment producing a workforce practicing in the right numbers, skill mix, settings and places?

We Can Help Answer These Questions

Mission: to provide timely, objective data and analysis to inform health workforce policy in North Carolina and the United States

- Based at Cecil G. Sheps Center for Health Services Research at UNC-CH, but mission is statewide
- Independent of government and health care professionals
- Primarily grant-funded
- We do not represent a particular profession, specialty or educational institution
- Been conducting policy-relevant, impactful research for over 40 years in collaboration with licensure boards, many of you and stakeholders across the state

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SHEPS HEALTH WORKFORCE NC

Our job is to help you ***love*** data, ***trust*** data, ***believe*** data, and ***use*** data to drive action

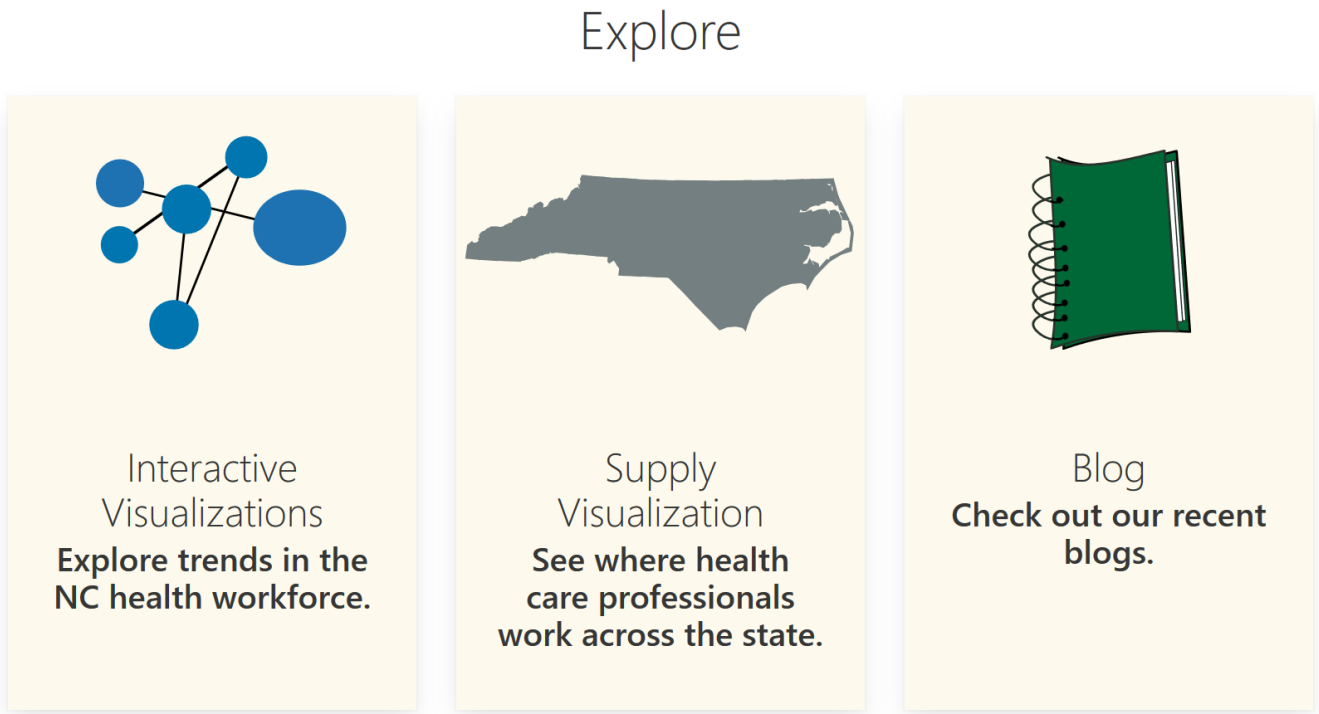
To accomplish this, we “tell stories” with data

Categories of Health Professionals in NC Health Professions Data System, 1979-present

- Physicians (MDs and DOs)
- Physician Assistants
- Dentists
- Dental Hygienists
- Chiropractors
- Optometrists
- Pharmacists
- Physical Therapists
- Physical Therapist Assistants
- Podiatrists
- Psychologists
- Respiratory Therapists *(2004)*
- Registered Nurses
- Licensed Practical Nurses
- Nurse Practitioners
- Certified Nurse Midwives *(1985)*
- Certified Nurse Specialists *(2018)*
- Certified Registered Nurse Anesthetists *(2018)*
- Psychological Associates
- Occupational Therapists *(2006)*
- Occupational Therapy Assistants *(2006)*

*Have published data since 1979 for all professions unless otherwise noted in parentheses.

After we clean these data, we put them into an interactive data visualization where users can access maps/graphs and track longitudinal trends

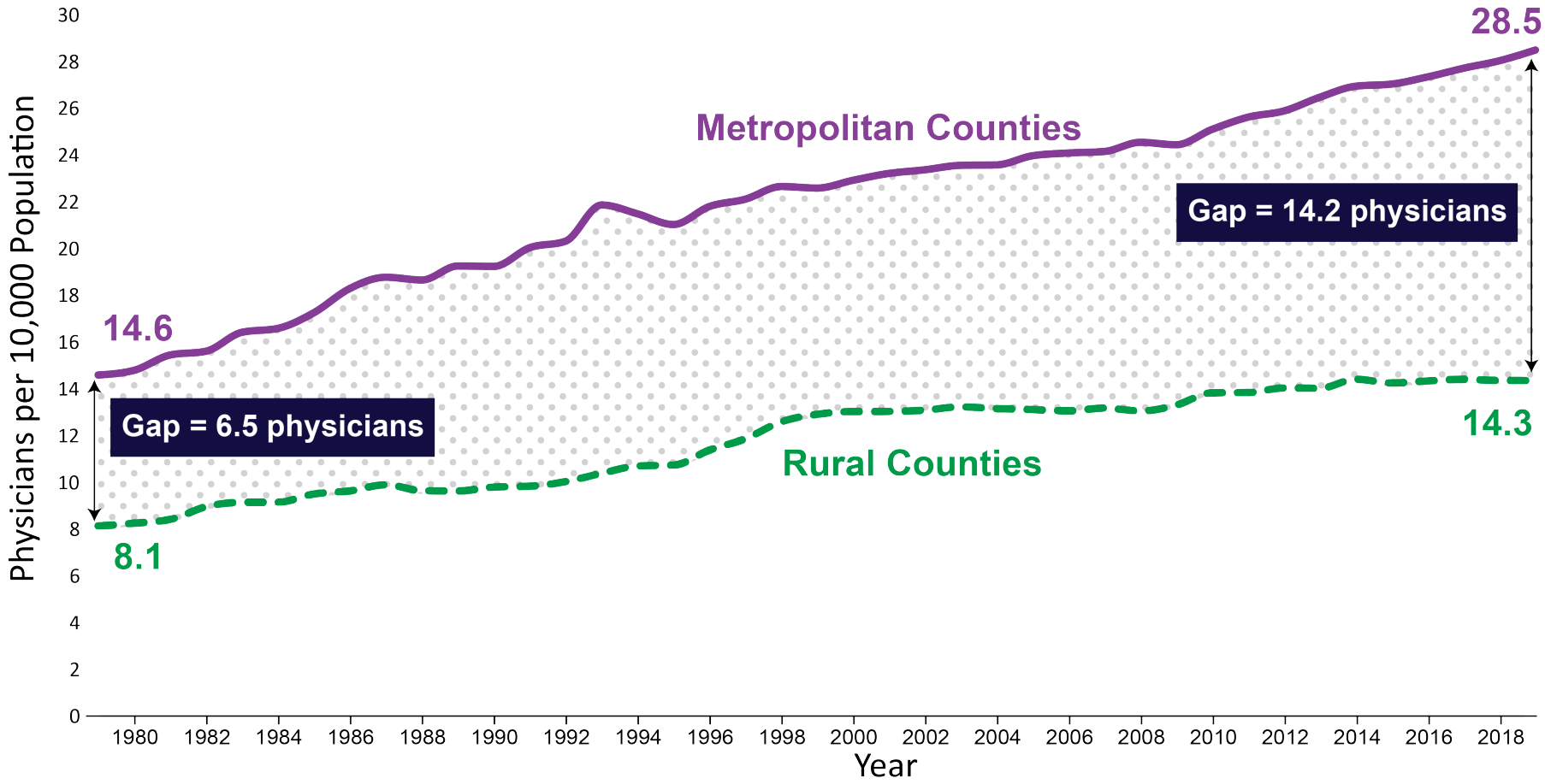


Data are available at county-level and for AHEC, rural/urban and Medicaid regions

nchealthworkforce.unc.edu

Policymakers: Despite overall growth in physician workforce in NC, disparities between rural and urban areas are growing

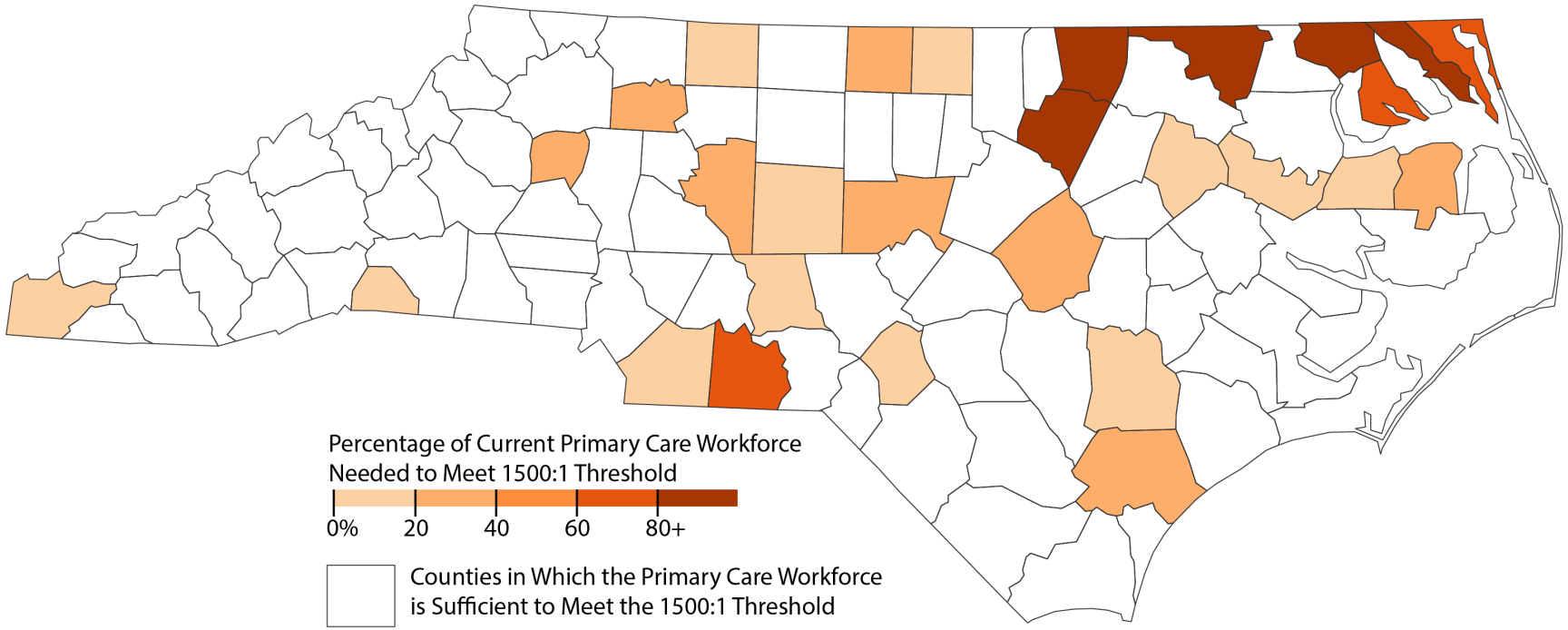
Physician per 10,000 Population for Metropolitan and Rural Counties, North Carolina, 1979 - 2019



Notes: Data include active, licensed physicians in practice in North Carolina as of October 31 of each year who are not residents-in-training and are not employed by the Federal government. Physician data are derived from the North Carolina Medical Board. County estimates are based on primary practice location. Population census data and estimates are downloaded from the North Carolina Office of State Budget and Management via NC LINC and are based on US Census data.

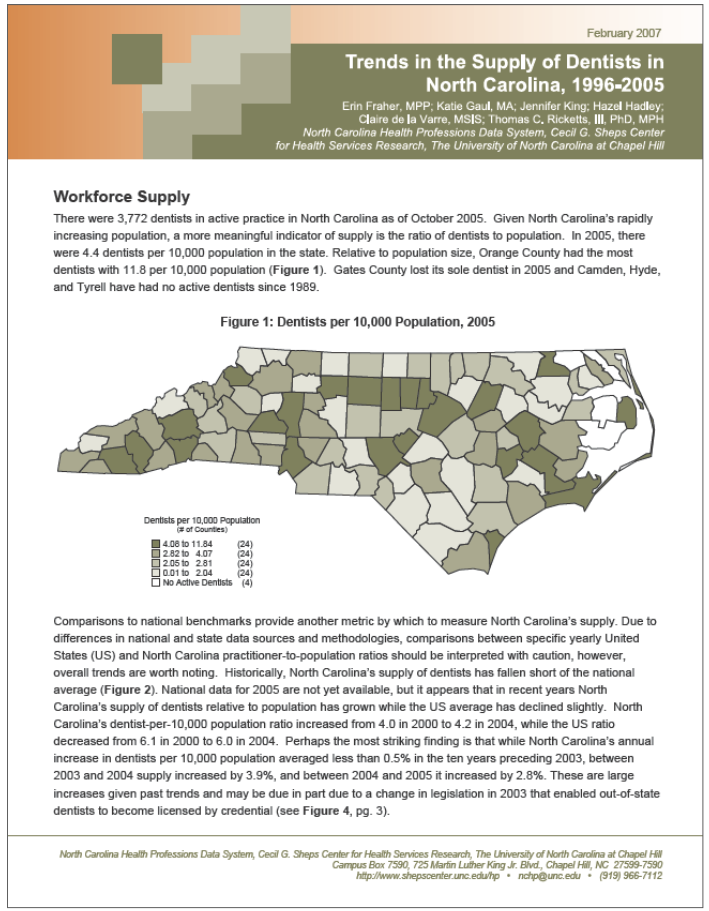
Policymakers: How many more primary care providers do we need and where?

Percentage of Current Primary Care Workforce Needed to Meet 1500:1 Population to Clinician Threshold, 2017 - 2021 Average, North Carolina



Notes: Primary care physicians, physician assistants, and nurse practitioners are defined as in Spero, J. C., & Galloway, E. M. (2019). Running the Numbers. North Carolina Medical Journal, 80(3), 186-190. Physicians with a primary area of practice of obstetrics/gynecology were weighted as 0.25 of a full-time equivalent (FTE) primary care practitioner. All other primary care physicians were weighted as 1 FTE. Primary care physician assistants, nurse practitioners, and certified nurse midwives were weighted as 0.75 FTE. Physician and physician assistant data are derived from licensure data provided by the North Carolina Medical Board. This analysis only includes physicians who are not residents-in-training and are not employed by the Federal government. Nurse practitioner and certified nurse midwife data is derived from licensure data provided by the North Carolina Board of Nursing. Data include active, licensed practitioners in practice in North Carolina as of October 31 of each year. Practitioners are assigned to counties based on primary practice location. County populations were adjusted for age and gender according to primary care use rates described in data from the Medical Expenditure Panel Survey. The raw (unadjusted) population data was from the NC Office of State Budget and Management (https://www.osbm.nc.gov/demog/county-projections).

Educators: How Do We Address Oral Health Needs?



February 2007

Trends in the Supply of Dentists in North Carolina, 1996-2005

Erin Fraher, MPP; Katie Gaul, MA; Jennifer King; Hazel Hadley; Claire de la Varre, MSIS; Thomas C. Ricketts, III, PhD, MPH
North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill

Workforce Supply

There were 3,772 dentists in active practice in North Carolina as of October 2005. Given North Carolina's rapidly increasing population, a more meaningful indicator of supply is the ratio of dentists to population. In 2005, there were 4.4 dentists per 10,000 population in the state. Relative to population size, Orange County had the most dentists with 11.8 per 10,000 population (**Figure 1**). Gates County lost its sole dentist in 2005 and Camden, Hyde, and Tyrell have had no active dentists since 1989.

Figure 1: Dentists per 10,000 Population, 2005

Comparisons to national benchmarks provide another metric by which to measure North Carolina's supply. Due to differences in national and state data sources and methodologies, comparisons between specific yearly United States (US) and North Carolina practitioner-to-population ratios should be interpreted with caution, however, overall trends are worth noting. Historically, North Carolina's supply of dentists has fallen short of the national average (**Figure 2**). National data for 2005 are not yet available, but it appears that in recent years North Carolina's supply of dentists relative to population has grown while the US average has declined slightly. North Carolina's dentist-per-10,000 population ratio increased from 4.0 in 2000 to 4.2 in 2004, while the US ratio decreased from 6.1 in 2000 to 6.0 in 2004. Perhaps the most striking finding is that while North Carolina's annual increase in dentists per 10,000 population averaged less than 0.5% in the ten years preceding 2003, between 2003 and 2004 supply increased by 3.9%, and between 2004 and 2005 it increased by 2.8%. These are large increases given past trends and may be due in part due to a change in legislation in 2003 that enabled out-of-state dentists to become licensed by credential (see **Figure 4**, pg. 3).

North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill
Campus Box 7590, 725 Martin Luther King Jr. Blvd., Chapel Hill, NC 27599-7590
http://www.shepscenter.unc.edu/hp • nchp@unc.edu • (919) 966-7112

Policy Issue: Lack of access to oral health care in North Carolina

Key Findings:

- NC lags behind national supply
- Between 2013-2017 72% of new dentists entering the workforce went to just 5 counties in NC, all those counties were urban
- Aging dental workforce, especially in ***rural*** counties

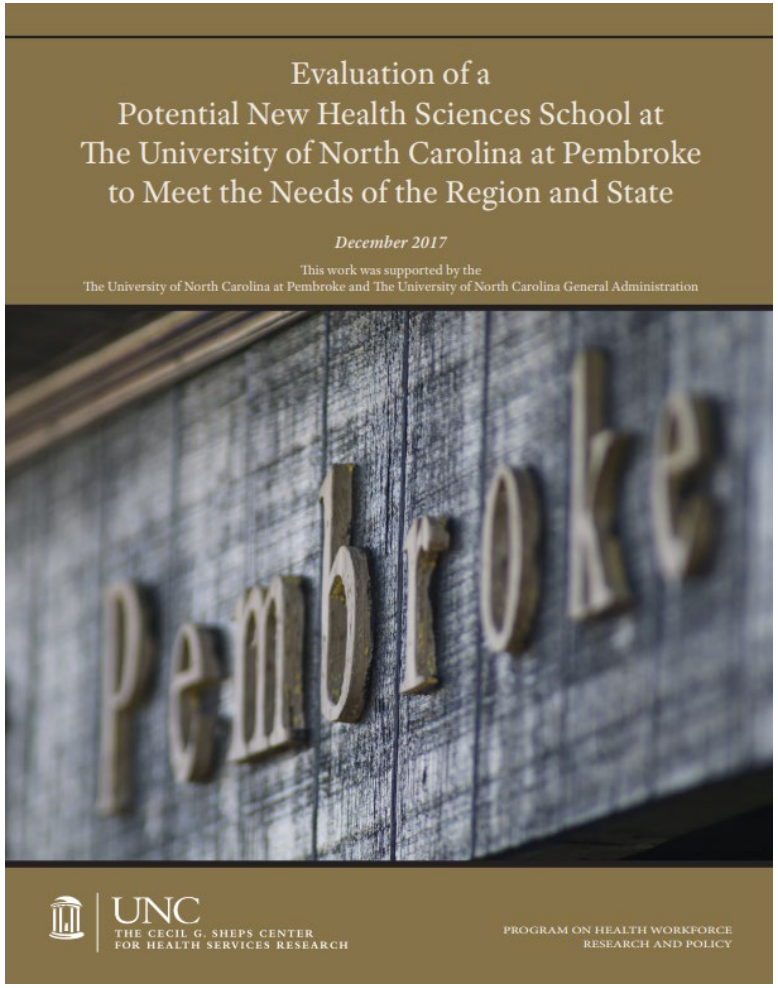
Policy Response:

- Legislature appropriated $89.6 million for new dental school at ECU and $96 million for expansion at UNC-CH

February 2007, *updated data in 2018*

http://www.shepscenter.unc.edu/hp//publications/nc_dentists05.pdf;
https://nchealthworkforce.unc.edu/blog/dentistchangemap13_17/

Educators: How do we develop new health professions programs that meet local and regional health needs?



Policy Issue: Which health profession programs are needed and could be developed at UNC Pembroke?

Key Findings:

- Significant health needs and health workforce shortages in the UNCP region
- 2017 report identified DNP and Occupational Therapy as programs to add

Policy Response:

- Received $91 million to open College of Health Sciences at UNCP
- In 2023, we updated the 2017 report with new data that highlights new educational programs that could be added

https://www.shepscenter.unc.edu//wp-content/uploads/2018/04/UNCP_Report_Sheps_Dec2017.pdf

Employers: What are your most pressing workforce challenges?

- Gathering information from NC health care employers every 6 months
  - First round: Fall 2021
  - Second round: Spring 2022
  - Third round: Fall 2022

Sample Questions

Over the **past 6 months**:

- Which occupations had exceptionally long vacancies?
- Which occupations had retention or turnover problems?
- Which new occupations were needed, or what new roles were filled?
- What are your biggest workforce challenges and how could they be solved?

https://nc.sentinelnetwork.org/

Employers: What are best practices to assess, address and prevent workplace violence?

- Health care workers make up 14% of total US workforce but experience 75% of all nonfatal, intentional, workplace injuries[1]
- ***Prior to the pandemic***, Bureau of Labor Statistics (BLS) reported 60% increase in workplace violence from 2011 to 2018
- ***Since the pandemic began***: BLS reports that injuries and illnesses have *at least doubled*
- BLS data likely underestimate rate of workplace violence because:
  - to be counted, WPV events must result in injury that required worker to miss one or more days
  - evidence suggests that employees underreport WPV to employers; under-reporting has worsened since beginning of pandemic
  - In one hospital, half of the staff indicated they experienced WPV but did not report it to hospital management

https://www.shepscenter.unc.edu/download/25102/

Workplace Violence in Healthcare Settings

Carolina HEALTH WORKFORCE Research Center

Brianna Lombardi, Emily McCartha, Connor Sullivan, Erin Fraher

Rapid Response August 2022

I. Literature Review

Workplace violence (WPV) is a documented experience that affects those that work within healthcare settings. WPV is described by the Occupational Safety and Health Administration (OSHA) a "any act or threat of physical violence, harassment, intimidation, or other threatening disruptive

Interactive Data Visualization

That was just a flavor of what's possible

With additional resources and capacity, we will:

- Add new professions to our data sets, including unlicensed workers
- Develop supply/demand models for other professions
- Develop dashboards to show shortfalls by county
- Collect more data about demand
- Monitor educational footprints of NC's education programs
- Develop state inventory of best practices
- Provide syntheses of latest papers, press releases, reports

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2. How would you use evidence to DRIVE action?
3. What's the best way to deliver data to you?

    Dashboards, interactive visuals, data briefs, presentations, technical assistance, social media?

Participant Poll: Ranking the best way to deliver data to you

Shifting to the Jam Board Exercise

- Jam Board Link: https://jamboard.google.com/d/1EDWT9D9CRFNeYcs0zDbaueclD34O-gvmXXYYWxe1iHA/edit?usp=sharing