North Carolina’s Oral Health Workforce: Challenges and Strategies

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Who we are and what we do
**North Carolina Health Professions Data System (HPDS)**

**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
- A collaboration between the Sheps Center, NC AHEC and the health professions licensing boards
- System is independent of government and health care professionals
North Carolina’s health workforce data are the envy of other states

- 36 years of continuous, complete licensure (not survey) data on 19 health professions from 12 boards
- Data are provided voluntarily by the boards—there is no legislation that requires this, there is no appropriation
- Data housed at Sheps but remain property of licensing board, permission sought for each “new” use

System would not exist without data and support of licensure boards
Overview of Presentation

• NC’s oral health workforce
  – supply & distribution
  – demographics

• Policy options
  – What strategies has NC used to address oral health workforce needs?
  – What can we learn from other states?
The Dental Workforce in NC
How many dentists and dental hygienists work in NC?

4,691 Dentists
5,798 Dental Hygienists

in 2014

Sources: North Carolina Health Professions Data System, with data derived from the North Carolina Board of Dental Examiners, 2014. Data include all, active, in-state dentists and dental hygienists.
HRSA’s NC workforce projections

- Dentist shortage will increase from 270 (2012) to 459 (2025)

- Dental hygienist surplus will increase to 858 (2025)

NC has high per capita rate and most rapid increase in ED visits for dental disorders

Emergency Department Visits for ICD-9-CM All-Listed Diagnosis Code 525.9, Dental Disorder Not Otherwise Specified, per 10,000 population

Source: State statistics from HCUP State Inpatient Databases and State Emergency Department Databases, Agency for Healthcare Research and Quality (AHRQ).
North Carolina Dental Workforce Supply and Distribution
NC has consistently lagged behind US in dentists per capita

Sources: NC Health Professions Data System, 1979 to 2014 with data derived from the North Carolina State Board of Dental Examiners; HRSA, Bureau of Health Professions; US Bureau of the Census; Center for Disease Control; North Carolina Office of State Planning. Figures include all licensed active dentists practicing in NC as of Oct. 31 of each year.
And has lagged behind most states as well...

### Active Dentists per 10,000 Civilian Population

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#### Top Ranked

- **Massachusetts**: 4th in 1996, 2nd in 2003, 1st in subsequent years
- **Hawaii**: 1st in 1996 and 2000, 2nd in 2003, subsequent years vary
- **New Jersey**: 5th in 1996, 4th in 2003, 3rd in subsequent years
- **New York**: 2nd in 1996, 4th in 2003, 3rd in subsequent years

#### Bottom Ranked

- **North Carolina**: 47th in all years
- **Alabama**: 46th in all years
- **Arkansas**: 48th in all years
- **Mississippi**: 49th in all years

NC’s dentists are concentrated in one fifth of the state’s counties

Dentists per 10,000 Population
North Carolina, 2014

Note: Data include active, instate dentists licensed in North Carolina as of October 31, 2014.
Source: North Carolina Health Professions Data System, with data derived from the North Carolina State Board of Dental Examiners, 2014.
Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
... And the gap between NC’s most underserved and not underserved counties has been slowly widening

Dentists per 10,000 Population by Persistent Primary Care Health Professional Shortage Area (PHPSA) Status
North Carolina, 1979 to 2014

1985 data are averaged between 1984 and 1986 due to missing data.

Sources: NC Health Professions Data System, 1979 to 2014 with data derived from the North Carolina State Board of Dental Examiners; HRSA, Bureau of Health Professions; US Bureau of the Census; Center for Disease Control; North Carolina Office of State Planning. Figures include all licensed active dentists practicing in NC as of Oct. 31 of each year.
NC has seen consistent growth in dental hygienists

Dental Hygienists per 10,000 Population, US and NC, 1979 to 2014


Sources: NC Health Professions Data System, 1979 to 2014 with data derived from the North Carolina State Board of Dental Examiners; HRSA, Bureau of Health Professions; US Bureau of the Census; Center for Disease Control; NC Office of State Planning. Figures include all licensed active dental hygienists practicing in NC as of Oct. 31 of each year.
Unlike dentists, hygienists experienced some growth in supply in NC’s most underserved counties.

Dental Hygienists per 10,000 Population by Persistent Health Professional Shortage Area (PHPSA) Status
North Carolina, 1979 to 2014

Demographic Data
Rural, contiguous counties with older dentists are a concern

Average Age of Dentists by County
North Carolina, 2014

Source: North Carolina Health Professions Data System, with data derived from the North Carolina State Board of Dental Examiners, 2014.
Note: Data include dentists actively practicing in North Carolina as of October 31, 2014. “Core Based Statistical Area” (CBSA) is the US Census Bureau and Office of management and Budget collective term for Metropolitan and Micropolitan Statistical Areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs, effective March 2013.
Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
North Carolina’s dental workforce is graying

8 counties in NC have dentists whose average age is 60 years or older

Sources: North Carolina Health Professions Data System with data derived from the North Carolina State Board of Dental Examiners, 2014. Figures include active, instate dentists licensed in North Carolina as of October 31, 2014.
Race/Ethnicity of dentist and dental hygienist workforce falls short of matching population diversity

Diversity of North Carolina's Population versus Diversity of Dental Profession, 2014

- North Carolina Population: 64%
- North Carolina Dentists (n=4,671): 82%
- University of North Carolina Dental Students: 64%
- East Carolina University Dental Students: 72%
- Dental Hygienists (n=5,387): 92%

Source: North Carolina Health Professions Data System with data derived from the North Carolina State Board of Dental Examiners, 2014. Data include active, in-state dentists and dental hygienists as of October 31. 10 dentists and 411 dental hygienists missing race information were omitted from analyses. Population data from US Census. Student data from University of North Carolina at Chapel Hill and East Carolina University for the graduating classes of 2015-2019.
Most of NC’s non-white dentists are educated out of state

Non-White Dentists by School
North Carolina, 2014

- UNC-Chapel Hill: 34.4%
- Other US States: 44.3%
- Other: 17.8%
- International: 3.5%
- Howard: 10.3%
- Meharry: 7.5%

n=863

Sources: North Carolina Health Professions Data System with data derived from the North Carolina State Board of Dental Examiners, 2014. Figures include active, instate dentists licensed in North Carolina as of October 31 of the respective year.
Half of NC’s dentist workforce graduated from UNC

Percent of Dentists Who Graduated From UNC-Chapel Hill School of Dentistry
North Carolina, 2014

Source: North Carolina Health Professions Data System, with data derived from the North Carolina State Board of Dental Examiners, 2014.
Note: Data include dentists actively practicing in North Carolina as of October 31, 2014. “Core Based Statistical Area” (CBSA) is the US Census Bureau and Office of management and Budget collective term for Metropolitan and Micropolitan Statistical Areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs, effective March 2013.
Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
New UNC-CH grads more likely to practice in rural areas

Source: North Carolina Health Professions Data System with data derived from the North Carolina State Board of Dental Examiners, 2014. Figures include active, instate dentists licensed in North Carolina as of October 31, 2014.

Practice Location of Newly Licensed Dentists, North Carolina, 2014

- New UNC-CH Grad: 18.6% Nonmetro, 81.4% Metro
- New Out-of-State Grad: 9.5% Nonmetro, 90.5% Metro
- Licensed by credential: 11.5% Nonmetro, 88.5% Metro
A Menu of Oral Health Workforce Policy Options
What workforce initiatives are underway in NC?
Education & Loan Repayment

- **Education**
  - Admissions (rural backgrounds, diversity)
  - Learning opportunities in rural/underserved communities

- **Loan Repayment**
  - State and Federal Programs
Medicaid Dental Benefits in NC

• NC is one of 15 states where Medicaid offers adults “extensive” dental benefits\(^1\)

But...

• In 2012, fewer than 50% of NC’s dentists accepted Medicaid patients\(^2\)

• Just a quarter were ‘significant providers,’ billing $10,000 or more\(^2\)

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What are other states doing to build their oral health workforce?
Dental Hygienists

• “Direct access” hygienists assess and treat patients without specific authorization/ presence of a dentist on-site

• State laws vary regarding where hygienists can practice independently and what services they can provide\(^1\)
  - E.g. screening, oral prophylaxis, fluoride, sealants

• States where hygienists practice independently in public health settings have more FQHCs that deliver dental services\(^2\)

States with “Direct Access” Dental Hygienists

Direct Access 2016
39 States

The American Dental Hygienists’ Association (ADHA) defines direct access as the ability of a dental hygienist to initiate treatment based on their assessment of a patient’s needs without the specific authorization of a dentist, treat the patient without the presence of a dentist, and maintain a provider-patient relationship (ADHA Policy Manual, 13-15).

States that permit direct access to dental hygienists

Revised April 2016
www.adha.org
Dental Therapists

- Provide preventive and restorative care
  - Oral exams, restorations, simple extractions, x-rays, place crowns, etc.
  - Refer more complicated services to dentist
- Long history in New Zealand, Australia, UK
- Licensed in MN, ME, VT and AK (for AK Native pop.)
- MN Dept. of Health Evaluation:
  - “Preliminary findings suggest that dental therapists may reduce emergency room (ER) use by expanding capacity at dental clinics serving vulnerable populations.”

States with dental therapist licensure & where licensure proposed

Dental Therapist Licensed

- Legislation passed (3)
- Legislation passed for Tribal Lands (1 - AK)
- Legislation proposed (10)

Source: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, UNC-Chapel Hill.
Integrating Oral Health Care into Primary Care

• Train primary care team & designate someone responsible for oral health
  – Physician, NP/PA, Nurse, LPN, Medical Assistant

• Screen for oral health risk & examine mouth

• Oral hygiene training and patient referral

• Apply fluoride varnish

• In NC, “Into the Mouths of Babes” & Carolina Dental Home Program, both for kids
Questions?

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