Health Workforce Data and Policy: How Stakeholders Use Data in North Carolina

Tom Bacon, Katie Gaul, Erin Fraher February 2017

Background

The need for accurate, timely data to support decision making in health policy has never been more apparent. Multiple health reform efforts have been and will be implemented that affect the supply of and demand for health care workers. This is especially true for states as they invest substantial amounts of public funding into training health care professionals. Not all states have the capacity to collect, analyze and present data describing their workforce needs—such data systems are expensive and take time to construct. Before states can develop such systems they need to have assurance that they will usefully support decisions and, in the long run, save money for the state and benefit their constituents.[1] The North Carolina Health Professions Data System (HPDS) is a part of the Program on Health Workforce Research and Policy at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. That system has housed, maintained, analyzed, and disseminated health professions data since 1979. This brief describes the stakeholders who use those data to make decisions or allocate resources in the State.

Who uses health workforce data in North Carolina?

Though the HPDS is housed at UNC Chapel Hill, its mission is statewide, and it assists a wide variety of stakeholders. **Figure 1** shows examples of stakeholders that regularly request and use HPDS data.

Figure 1. Examples of Health Workforce Stakeholders and How They Use Data

Type of Organization | *Sample Stakeholders*	Data Uses
Local & State Policymakers *NC General Assembly; Office of Rural Health & Community Care; State Center for Health Statistics; NC Department of Commerce; County Health Departments*	Policy decisions; allocate funding; program planning; evaluation; shortage designations; grant proposals
Workforce Policy *NC AHEC; NC Institute of Medicine; Council for Allied Health in NC*	Evaluation; program planning; policy analysis; regulatory questions; grant proposals; pipeline and diversity
Education, Research *UNC General Administration; NC Community College System; Private Colleges and Universities; Individual Researchers*	Planning for new schools; planning for new programs; pipeline and diversity; evaluation; research projects; grant proposals
Regulatory Bodies *NC Licensing Boards; NCSBN; FSMB*	Improve data quality/quantity; regulatory decisions; understand licensee characteristics
Employers, Health Systems *UNC Healthcare; Piedmont Alliance for Triad Healthcare; Cone Health*	Workforce planning; diversity initiatives; planning for service areas
Funders *Duke Endowment; Kate B. Reynolds Charitable Trust; NC Health and Wellness Trust Fund; RWJF; Physicians Foundation*	Program planning; resource allocation; evaluation
National Organizations *HRSA; IOM; AMA; AAMC;ACS*	National policy; evaluation; dissemination; improve data quality
Professional Associations *NC Academy of Family Physicians; NC Medical Society; NCHA*	Advocacy/membership; policy analysis; program planning; grant proposals
Other *Media; students; health professionals; individuals; continuing education*	News stories; class projects; locational analysis; loan repayment; CME seminars

These individuals and organizations access HPDS data by making specific requests for analyses or presentations to Sheps Center staff. They also make use of information from the many reports and presentations produced by the staff. Additionally, stakeholders can download data directly from the Program on Health Workforce Research and Policy website.

How do stakeholders use data to inform policy in North Carolina?

The data produced by the NC HPDS have been used for nearly four decades to inform policy decisions relating to the educational systems of the state, public and private programs to improve the supply and distribution of key health professions, and initiatives with workforce implications. For a summary of selected reports, see the brief entitled, "*Policy Uses of Health Workforce Data: Summary of Reports Used to Inform Policy in North Carolina*."

Data are used to describe the supply and distribution of the current workforce

The most common use of workforce data is to provide an overview of the current supply and distribution of a particular health profession. The NC HPDS has been producing the North Carolina Health Professions Data Book[2] on an annual basis since 1979. The book contains basic information on the total number of active providers in 19 licensed health professions for the state as a whole, by county, by metropolitan/nonmetropolitan designation, and by region, including the state's nine regional AHECs.

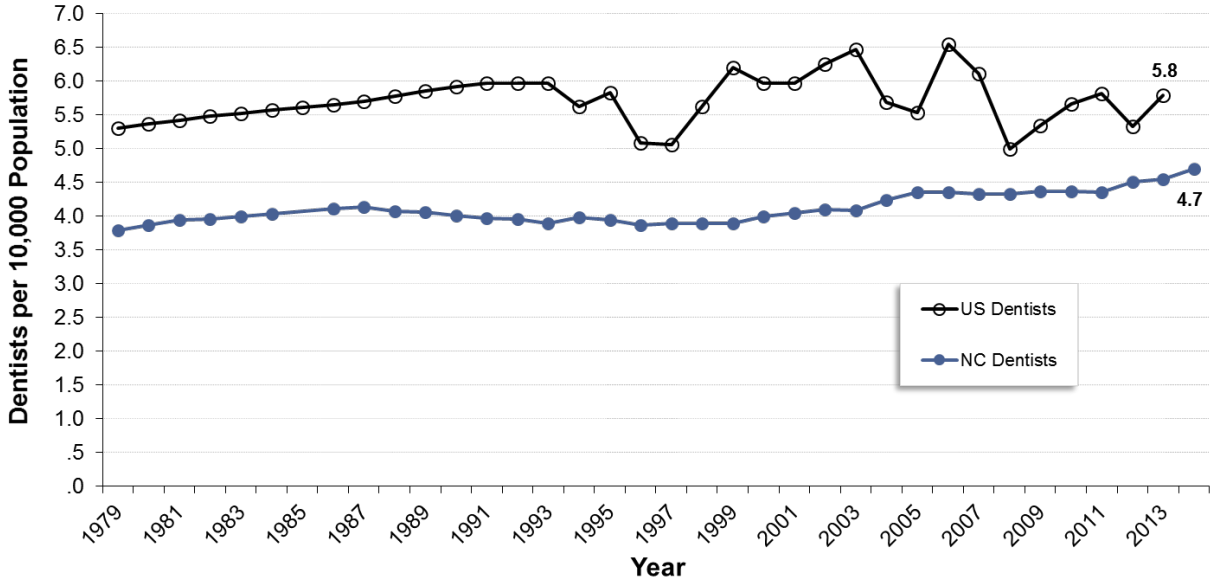
Data are used to document shortages of providers or services

Another common use of health workforce data involves documenting perceived shortages, either of specific types of providers or of a particular type of service, such as obstetrical care. One method used for documenting a shortage, or lack of one, is calculating a provider to population ratio for a given geographic area and benchmarking to national standards. The HPDS provides these data annually as tables, maps and charts (see **Figure 2** as an example).

The North Carolina Office of Rural Health uses these data in applying for federal Health Professions Shortage Area (HPSA) designations. HPSA designations are used by several federal programs to determine if a county or part of a county or a facility (e.g., correctional institution) qualifies for various federal programs and incentives, including the National Health Service Corps and federally funded community health centers.

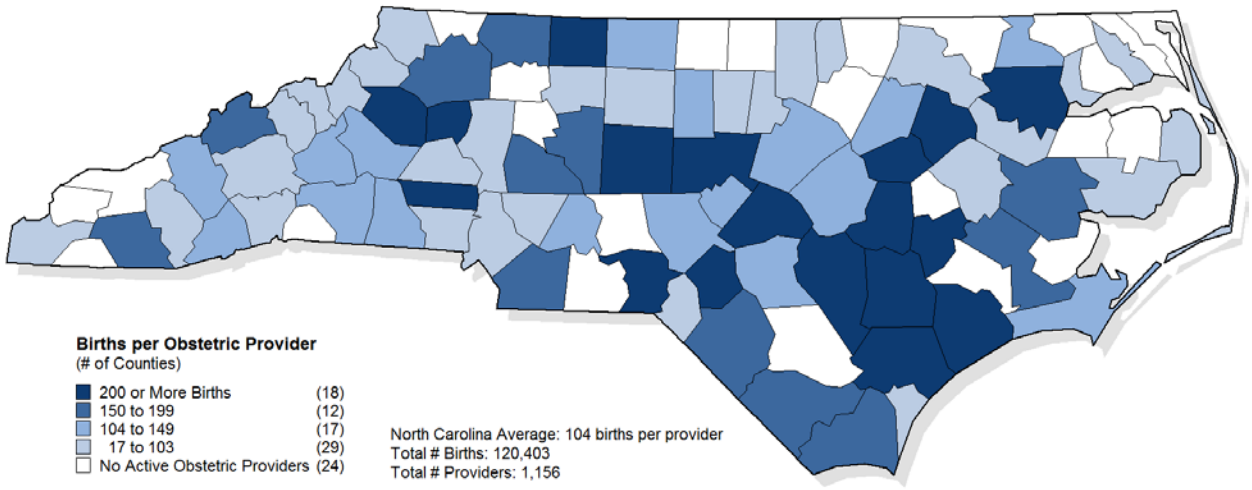
In 2014, the North Carolina General Assembly Joint Legislative Oversight Committee on Health and Human Services Subcommittee on Certified Nurse Midwives used HPDS data[3] (see **Figure 3** as an example) as the basis for proposed legislation[4] to revise the rules governing physician supervision of Certified Nurse Midwives (CNMs) in the state. This legislation was developed in response to perceived shortages in obstetrical care, particularly in the state's rural areas, but the bill failed to pass in the 2013-14 Session.

Figure 2. Dentists per 10,000 Population, US and NC, 1979 to 2014



Note: *Figures include all licensed active dentists practicing in NC as of Oct. 31 of each year. Fluctuations in the national data are likely due to how the data are collected and not real swings in the number of dentists.* ***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.*

Figure 3. Resident Births per Provider of Obstetric Deliveries, North Carolina, 2011



Note: *Data include active, instate Certified Nurse Midwives (CNMs) who were licensed in North Carolina as of October 31, 2011, and active, in-state, non-federal, non-resident-in-training physicians who were licensed in North Carolina as of October 31, 2011 and reported that they provide obstetric deliveries.* ***Source:*** *Providers: North Carolina Health Professions Data System (NC HPDS), with data derived from the North Carolina Board of Nursing and North Carolina Medical Board, 2011. Births: Department of Health and Human Services, Vital Statistics, linc.state.nc.us, accessed 2/25/14.*

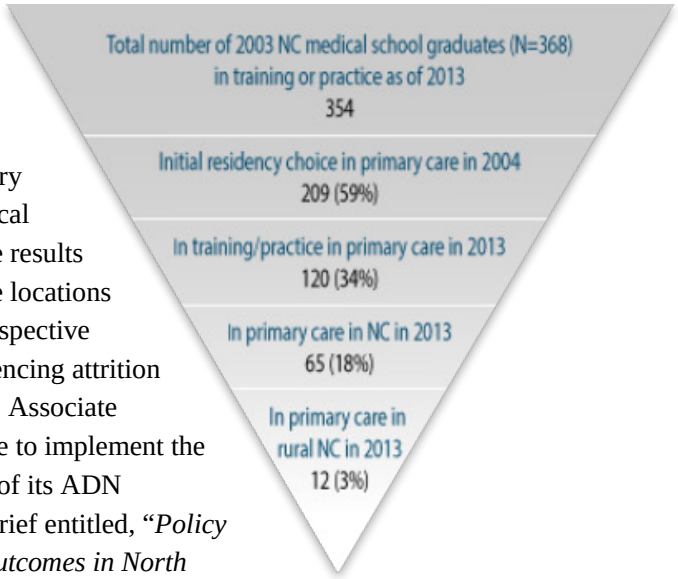
Data are used to document the need for new educational programs

In a state with a rapidly growing population, there is a perception that the growing demand for health care requires comparable growth in the number of graduates in a wide array of health professions. Both public and private colleges and universities in the state use data from the HPDS to demonstrate the need for new educational programs or schools, or to expand existing programs. Likewise, the University of North Carolina General Administration and the North Carolina General Assembly rely on data from the HPDS to approve or deny proposals for new programs. Sometimes the debates are contentious, and the availability of objective data to temper anecdotal evidence is critical to making evidence-based decisions. For more detailed examples of how data are used in planning new educational programs see the brief entitled, "*Policy Uses of Health Workforce Data: Using Data to Evaluate the Need for New Educational Programs in North Carolina*."

Data are used to evaluate educational outcomes

Millions of state dollars support healthcare education programs, yet there is typically little to no evaluation of educational outcomes or program effectiveness to show the state's return on investment (ROI). In the drive to open new programs to produce more health care workers, the necessity to improve current programs or consider other alternatives is essential. In North Carolina, data are used to track the number of NC medical graduates going into primary care and practicing in the state five and ten years after medical school (**Figure 4**). North Carolina's medical schools use the results of this annual project to evaluate the specialties and practice locations of their graduates and compare their achievement to their respective missions. Data have also been used to identify factors influencing attrition from North Carolina Community College System (NCCCS) Associate Degree Nursing programs. The NCCCS formed a committee to implement the recommendations of the study and to address attrition rates of its ADN programs. For more information on these projects, see the brief entitled, "*Policy Uses of Health Workforce Data: Evaluating Educational Outcomes in North Carolina*."

Figure 4: North Carolina Medical Graduates: Retention in Primary Care in North Carolina's Rural Areas Ten Years After Graduation.



Data are used to describe racial and ethnic diversity in the health professions

In 2011-2012 and 2015-2016, with funding from the NC AHEC Program, the Program on Health Workforce Research and Policy conducted a descriptive analysis of the racial/ethnic diversity of health professionals in North Carolina. The impetus for this project came from the increased attention on patient centered models of care, a rapidly diversifying patient population, and the general lack of racial and ethnic diversity among health professionals both in NC and nationally. This study found that there are differing levels of racial/ethnic diversity among the health professions in NC; diversity varies geographically, with more nonwhite practitioners clustering in urban areas; and that, overall, North Carolina's health professions are less diverse than the state's population. The results of this analysis have been disseminated through two articles published in the *North Carolina Medical Journal*,[5,6] a fact sheet[7] widely distributed through a national listserv, and at

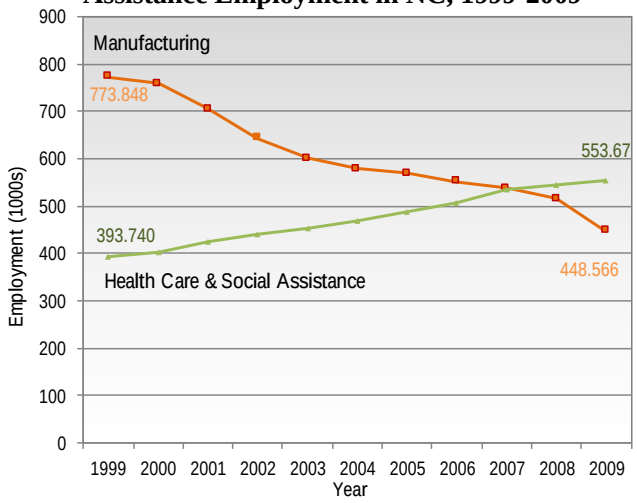
state and national meetings and conferences. Educators and administrators are using the findings to promote diversity efforts in health education pipeline programs and admissions to university programs, and to pursue funding opportunities to support further efforts.

Data are used to support workforce and economic development initiatives

From 2005 to 2012, health workforce researchers at the Sheps Center, in collaboration with the Council for Allied Health in North Carolina and the NC AHEC Program, issued a series of allied health job vacancy tracking reports. The goal of these reports was to estimate regional workforce demand for selected allied health professionals in the state by monitoring job vacancy advertisements from both online and print sources. Results consistently showed high demand for the therapy professions (e.g., occupational therapy assistant, physical therapist), and that demand varied by region.

Initial vacancy reports and other data from the HPDS helped identify allied health as a factor in promoting workforce and economic development in the state. While the number of manufacturing jobs was declining, the number of health care jobs was increasing rapidly (**Figure 5**), and within healthcare, it was shown that allied health jobs were driving that growth. In 2006-7, Sheps Center staff worked with the North Carolina Department of Commerce and the NC AHEC Program in a National Governor's Association supported allied health sector strategy program. This work relied heavily on HPDS data to identify regional allied health workforce needs that could be addressed via community college and other regional programs.

Figure 5. Total Employment in Manufacturing and Health Care and Social Assistance Employment in NC, 1999-2009



Data are used to assess the impact of new roles in health care settings

As health systems, professionals and policy makers seek to make health care more affordable while improving quality we see health care professionals having to change the way they work. This involves greater cooperation across disciplines, the use of new technology, and greater attention to shared outcomes. The Program on Health Workforce Research and Policy monitors these changes using HPDS data as well as data from other state and national sources. The emergence of new specialties and even professions has been tracked in those data as we seek to find greater value in the healthcare workforce.

Conclusions

Collecting, analyzing and disseminating health workforce data is a valuable service the NC HPDS provides to the State of North Carolina and the many stakeholders who use the data. This allows them the opportunity to use hard evidence to assess need for caregivers and professionals and to plan, implement and evaluate a wide array of programs and services designed to improve access to high quality health care in the state. This brief has described general ways that heath workforce data are used to make policy decisions and has provided examples from specific studies. Other briefs in this series provide examples of how data have been used to answer specific health care workforce policy questions. Describing for stakeholders the number and distribution of health care workers and how policy affects those factors are key to maintaining support for a health workforce data system.

References and Notes

[1] The Statewide Longitudinal Data Systems (SLDS) Grant Program produces and maintains a rich collection of resources on stakeholder engagement. For information on stakeholder engagement, communication, maintenance and troubleshooting, see https://nces.grads360.org/#communities/stakeholder-engagement.

[2] http://www.shepscenter.unc.edu/wp-content/uploads/2015/05/2013-HPDS-DataBook.pdf

[3] http://www.shepscenter.unc.edu/wp-content/uploads/2016/04/Fraher_NCGA_CNMs_02_26_14_FINAL.pdf

[4] http://ncleg.net/Library/studies/2014/st12104.pdf

[5] Fraher E, McGee V. The State of Racial/Ethnic Diversity in North Carolina's Health Workforce. *NC Med J*. 2012;73(5):337-345. http://classic.ncmedicaljournal.com/wp-content/uploads/2012/09/NCMJ_73501_FINALa.pdf

[6] Spero JC. Running the Numbers: Does North Carolina's Health Care Workforce Reflect the Diversity of the State's Population? *NC Med J*. 2016;77(2):141-145. http://www.ncmedicaljournal.com/content/77/2/141.full.pdf

[7] Mcgee V, Fraher E. The Diversity of North Carolina's Health Care Workforce. North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. 2012. http://www.shepscenter.unc.edu/hp/publications/Diversity_Aug2012.pdf.