EXAMINING THE IMPACT OF THE PATIENT PROTECTION AND AFFORDABLE CARE ACT IN NORTH CAROLINA

CHAPTER 5: HEALTH PROFESSIONAL WORKFORCE

OVERVIEW

In 2014, almost 800,000 uninsured North Carolinians may gain insurance coverage.[1] The increase in the number of North Carolinians with health insurance will increase demand for health care services, particularly primary care.[2] This acceleration of demand will include physical and behavioral health care as well as oral health care. There is evidence that North Carolina does not have enough health practitioners to meet current and future population health needs for all of its population. Workforce shortages significantly limit access to care as well as prevention and treatment options, particularly in rural areas of North Carolina. If the ACA is to deliver on its goals of improving population health and quality of care while reducing costs in our state, North Carolina must take steps to ensure there is an adequate workforce.

The Health Professional Workforce Workgroup was charged with identifying the decisions the state must make in implementing the workforce provisions of the ACA as it affects the state. While the ACA includes provisions to increase the number of physical,[3] behavioral,[4] and oral health practitioners[5] to address current and future workforce needs, and authorized new programs to expand the number of health care professionals, it did not include appropriations to fund all of these provisions. Given limited federal funding for workforce initiatives, the Workgroup focused on critical steps that the state could take to ensure an adequate workforce to meet the health care needs of North Carolinians. The Workgroup discussed many workforce-related challenges facing the state with a focus on short-term workforce issues including:

- Can the current workforce meet the changes in demand?
- What are the drivers that affect the quantity and quality of North Carolina's workforce?
- Do we educate enough health care practitioners to meet our population health needs?
- Are there other sources of health care practitioners?
- What policy solutions can help North Carolina meet changing demands?
- How is the practice of health care changing, and what types of changes to the workforce are needed to meet new practice demands?

Given the difficulties in rapidly expanding the health care practitioner workforce in the short-run, this Workgroup focused on what the state can do to be better prepared to meet the increase in demand for services in 2014 and beyond.

HEALTH WORKFORCE

Increasing access to and the quality of primary care is critical to ensure that North Carolina's health care needs are met. The primary care workforce includes physicians, nurse practitioners, physician assistants, certified nurse midwives, and registered nurses as well as support staff including licensed practical nurses, medical assistants, and others. These practitioners are responsible for providing a wide range of services from preventive care, chronic disease management, and urgent care, to basic psychosocial needs. They are the front door to the health care world and provide continuity of care to patients through ongoing relationships.[6] The

primary care workforce is facing large increases in demand due to aging baby boomers becoming eligible for Medicare, expanded insurance coverage through the ACA, and overall growth in the population.[7] While the primary care workforce is expected to experience the greatest increases in demand, increasing insurance coverage will likely result in significant increases in all types of health care utilization.[8] Over the past decade, North Carolina has expanded its primary care workforce. In 2010, North Carolina had a total of 9,017 primary care physicians, 3,679 nurse practitioners, and 3,625 physician assistants. North Carolina's primary care physician supply was above the national average with 9.2 practitioners per 10,000 population compared to 8.4 nationally. From 1997-2010, North Carolina saw a slight increase in the number of practicing physicians reporting a primary care specialty, from 41% to 43%. At the same time, the percentage of nurse practitioners and physician assistants reporting primary care specialties declined (from 50% to 45% and 45% to 34%, respectively).[9]

While primary care supply is currently strong overall in North Carolina, uneven distribution in rural areas means that many areas of North Carolina qualify as primary care health professional shortage areas (HPSAs). Additionally, it is unlikely that the current primary care workforce and workforce in training in North Carolina will be adequate to handle the large increase in demand for services.

The ACA includes provisions not only to expand access to physical health care, but also behavioral health care, which includes mental health and substance abuse services.[10] The Mental Health Parity and Addiction Equity Act of 2008 was the first federal bill requiring parity for mental and physical health benefits offered by large employers. The ACA further expands access to behavioral health services by requiring behavioral health coverage as part of the essential benefits package.[11] (See Chapter 3 for more discussion of the essential benefits package.) In addition, individual and small group plans offered through the Health Benefit Exchange will be required to cover mental health and substance abuse services in parity with treatment provided for physical health problems.[12] The ACA also includes provisions to encourage integration between physical and behavioral health services and to grow the behavioral health workforce.[13] The behavioral health workforce includes professionally trained (graduate-level) psychiatrists, psychologists, licensed clinical social workers, licensed clinical addiction specialists, and psychiatric-mental health nurses as well as bachelor's prepared nurses, technicians, aides, and others with training at or below the bachelor's level.[14] North Carolina's behavioral health workforce is not adequate to address population needs for prevention of and treatment for mental health and addiction disorders.[15] Seventeen counties have no psychiatrists and 24 counties have no psychologists; 82 counties have fewer than one psychiatrist per 10,000 residents and 73 have one or fewer psychologists per 10,000.[16] North Carolina's behavioral health workforce is inadequate to meet existing needs in many parts of the state and will be further strained as large numbers of individuals gain coverage for behavioral health services.

Oral health is an integral component of general health and can significantly affect overall health and well-being.[17] As part of the ACA, all insurance plans that are not grandfathered or self-funded ERISA plans must provide coverage of the essential health benefits. The essential health benefits must provide coverage of pediatric services, including oral and vision care.[18] The ACA does not include provisions to increase adults' access to oral health care. While the ACA does not include provisions requiring dental benefits for adults, it did include provisions aimed at

increasing the dental workforce (which have not been funded).[19] North Carolina has fewer dentists per capita than the United States (4.4 per 10,000 vs. 6.0 per 10,000, respectively).[20] This disparity is expected to increase due to a rapidly increasing population and declining retention rates for North Carolina educated dentists.[21] Limitations due to the size of the workforce and the new dental coverage for children is likely to exacerbate existing dental access barriers.

Allied health practitioners make up the largest proportion of the North Carolina health workforce (35%) and account for 44% of job growth in health care over the past decade.[22] Allied health workers are found in primary care, behavioral health, oral health, and other health care fields. Allied health practitioners include, but are not limited to, audiologists, certified medical coders, counselors, dental hygienists, dietitians, medical assistants, medical interpreters, medical office administrators, nurse aides, optometrists, pharmacists, physical therapists, rehabilitation counselors, and speech-language pathologists.[23] Many allied health practitioners work in primary care, with fewer working in behavioral and oral health care. As with other health care professionals, additional allied health professionals will be needed to meet the health care needs of the newly insured.

GROWING THE HEALTH WORKFORCE

The increase in demand for health care services due to the increasing size of North Carolina's population, the aging of the population, and increases in the insured population, combined with the shortages North Carolina is already experiencing in primary care, behavioral health, and oral health, mean that North Carolina must find ways to expand the health workforce. The Workgroup discussed many methods that could be used to expand the health workforce and ensure the workforce is prepared to meet North Carolina's primary health care needs including:

- Training more North Carolinians in North Carolina schools and institutions by increasing capacity.
- Training new and existing health professionals to practice in new models of care.
- Increasing the diversity of the workforce.
- Retaining more practitioners trained in North Carolina institutions when they graduate.
- Retaining practitioners currently practicing.
- Recruiting more practitioners from out of state.
- Changing practice models to maximize the efficiency of the existing workforce.

Training More Health Practitioners

Educating and training more health care practitioners is a necessary step to ensure that North Carolina has an adequate workforce to meet the growing health needs of the population. However, increasing the workforce without attention to the types of health practitioners and the geographic distribution of health practitioners needed to meet the needs of the population will not solve the problem. As discussed in Recommendation 5.5, all North Carolina agencies and educational institutions that play a role in the education, training, recruitment, and retention of health practitioners should be involved in health workforce planning.

There are efforts underway to increase the health care workforce, many of which focus on meeting the primary health and oral health workforce needs in rural and underserved areas. Many schools in North Carolina have recently expanded or plan to expand their health practitioner training programs including:

- East Carolina University (ECU) opened a School of Dental Medicine in 2011 with a class size of 50. ECU recruits students from North Carolina with an emphasis on students from disadvantaged backgrounds and underserved areas. Students will do their clinical training in community service learning centers in underserved areas around the state.
- The ECU School of Medicine has delayed plans to increase its class size from 80 to 120 students until funding is available. Plans call for students to do their clinical rotations in new satellite clinics located in eastern North Carolina.
- The UNC-CH School of Dentistry has delayed plans to increase its class size from 80 to 100 students until funding is available.
- The UNC-CH School of Medicine increased the medical class size from 160 to 170 in 2011 and added another 10 students in 2012. The additional students will receive their clinical education at regional campuses in Charlotte and Asheville. Clinical education for the students enrolled in the Charlotte and Asheville programs will focus on providing primary care to underserved populations. Planned expansion to 230 students is on hold until further funding is available.
- Campbell University plans to open a School of Osteopathic Medicine in the fall of 2013. The program aims to have an average class size of 150. Students will spend their third and fourth years of school training in community hospitals. The program will emphasize primary care, behavioral health, and general surgery with an emphasis on underserved populations.
- New physician assistant programs at Campbell (2011), Elon (planned for 2013), the University of North Carolina at Chapel Hill (UNC-CH) (planned for 2014); expansion of physician assistant programs at Duke University, Methodist University.
- The UNC School of Medicine is developing a new physician assistant program targeted to veterans with the medical training and experience of a Special Forces Medical Sergeant. The Master of Physician Assistant Studies degree program will include clinical rotations throughout the state, as well as a rigorous classroom experience. Blue Cross Blue Shield of North Carolina has pledged $1.2 million over the next four years to help UNC establish the master's curriculum, hire full-time program staff, and provide scholarship funds.
- St. Augustine's University has plans to begin a Master's level physician assistant program in the fall of 2014.
- Duke University has a new program to increase the number of Adult Nurse Practitioners (ANPs) and Family Nurse Practitioners (FNPs) who enroll full-time and graduate within two years and will accelerate the graduation rate of part-time students in these tracks.
- There have been many other efforts in nursing and allied health over the past five years. The workgroup noted that there were too many efforts to catalogue them all. However, examples of include:
    - The nursing programs at UNC Wilmington, Western Carolina University, ECPI University, East Carolina University, and some of the North Carolina Community College System schools have significantly expanded enrollment.[24, 25]
    - Pitt Community College is leading a regional consortium to develop health information technology training programs.
    - Carolinas College of Health Sciences has created an anesthesia technician certification program at Carolinas College of Health Sciences.

- Additionally there have been some smaller program expansions and various efforts to increase the number of medical, physician assistant, and nursing students interested in entering primary care.

In addition to these efforts, North Carolina has received some ACA grant funds aimed at expanding the health professional workforce. As part of the ACA, $253 million in Prevention and Public Health Fund grants were allocated to the Health Resources and Services Administration (HRSA) within the United States Department of Health and Human Services to support workforce grants in FFY 2010.[26] State agencies, academic institutions, and medical centers applied for grants from HRSA, and these entities were successful in competing for some of the new workforce funding. The following is a summary of ACA grants to increase the health professional workforce awarded to entities in North Carolina as of November 1, 2012.

- *Primary care residency expansion:* The UNC Chapel Hill Department of Pediatrics/UNC Hospitals received a five-year grant of $3.7 million to fund an increase of four residents per year with a focus on training general pediatricians for communities in North Carolina. The program will be done in collaboration with Moses Cone Health System and the UNC pediatrics faculty who are based there. The first four residents were admitted in 2011. In addition, New Hanover Regional Medical Center/South East AHEC received a five-year grant of $1.8 million to fund an expansion of the family medicine residency in Wilmington from four residents per year to six. The expanded residency program will develop a partnership with the New Hanover Community Health Center, a federally qualified health center (FQHC), to serve as a second site for training residents.
- *Expansion of Physician Assistant training.* Duke University School of Medicine's Physician Assistant (PA) Program was awarded a $1.3 million HRSA grant that will provide 34 students $44,000 in tuition support in an innovative longitudinal primary care curriculum. Selected students will do the majority of their clinical training in medically underserved areas of North Carolina, with the goal of practicing in these communities after graduation. In addition, the Methodist University Physician Assistant Program received a five-year grant of $1.9 million to both increase class size and to provide support to students to strengthen the likelihood they will enter primary care practice. The program will increase the size of the entering class from 34 to 40, with a possibility of going to 46 in later years. The funds will also be used for financial support to students and allow the program to develop some additional rural clinical training sites.
- *Personal and home care aide training.* North Carolina was one of only six states to receive one of these grants, with the North Carolina Department of Health and Human Services (NCDHHS) Office of Long-term Services and Supports being the grant recipient and the North Carolina Foundation for Advanced Health Programs as a subcontractor. With this three-year $2.1 million personal and home care aide training grant, two pilot projects will be developed to enhance the training of between 190-230 personal and home care aides with 60-80 trained via allied health programs in community colleges or high schools and another 120-150 participating in training through home care agencies and adult care homes.

- *Expansion of Advanced Nursing education and training.*
    - Western Carolina University and the Duke University School of Nursing received $601,000 and $213,000 respectively to support nurses pursuing advanced nursing education.
    - The Duke University School of Nursing received $1.3 million to increase full-time enrollment in their primary care nurse practitioner programs. The grants will provide many nursing students $44,000 in tuition support.
    - Many schools of nursing in North Carolina, including the University of North Carolina at Chapel Hill, Charlotte, Greensboro, and Wilmington, as well as Duke University, East Carolina University, and Winston-Salem State University, received funding from the Advanced Education Nursing Traineeships Program to fund traineeships for nurses receiving advanced nursing education.
    - The Duke University School of Nursing, Western Carolina University, Eastern Carolina University, and University of North Carolina at Charlotte and Greensboro received funds to support licensed regular nurses enrolled in nurse anesthetist programs.
    - The University of North Carolina at Chapel Hill and Duke University School of Nursing received $195,000 and $105,000 respectively to provide loan for*g*iveness for registered nurses completing graduate education to become nursing faculty.
    - The University of North Carolina at Chapel Hill received $210,000 to support efforts to increase nursing workforce diversity. Grant assistance includes financial assistance, academic support, and mentoring.
    - Duke University Hospital is part of the Centers for Medicaid and Medicare Services graduate nurse education demonstration project which will provide reimbursement (of up to approximately $50 million over five years) for clinical training costs for advanced practice registered nursing students.
- *Public Health Training Centers*. The University of North Carolina at Chapel Hill received $639,000 to establish the Southeast Public Health Training Center (SPHTC), which is part of the North Carolina Institute for Public Health at the Gillings School of Global Public Health. The SPHTC's focus is on training development, dissemination, maternal and child health, rural public health, leadership, and management.
- *Interdisciplinary and interprofessional education*. The University of North Carolina at Chapel Hill received $253,000 to support the integration of public health content into clinical curricula.
- *Geriatric education*. The Duke University School of Nursing received $262,000 to train and educate those providing care for the elderly.
- *State Health Care Workforce Development Grants*. The North Carolina Department of Commerce received $144,595 to support workforce development planning which was lead by the North Carolina Health Professions Data System at the Cecil B. Sheps Center for Health Services Research.

With the exception of the federal workforce development grant, all of these funds have been limited to incrementally increasing the workforce. While the Workgroup believes such increases are necessary, they are not sufficient to meet the healthcare demands of North Carolina's population. The Workgroup believes that broader changes and investments are necessary to meet the needs of the state and the changing healthcare practice environment. As outlined in this

chapter, the Workgroup strongly recommends making additional investments in increasing diversity in the health practitioner workforce, undertaking comprehensive workforce planning, revising existing medical education programs to better meet state needs and the changing healthcare practice environment, and strengthening the state's ability to take advantage of federal workforce recruitment funds.

The Workforce workgroup recognizes that there may be other funding opportunities that could become available sometime in the future to support North Carolina's workforce needs. For example, the ACA includes provisions that authorize, but do not appropriate, funding for other workforce programs, including provisions to increase the number of physical, behavioral, and oral health practitioners through loan and scholarship programs; create medical school rural training programs; develop and implement interdisciplinary medical education; and develop other programs to address current and future workforce needs.[27] Thus, the Workgroup supports the work of organizations that are monitoring federal funding opportunities. These groups should also examine existing funds to determine if the state can take advantage of any opportunity to expand the health care professional workforce and change the way health practitioners are educated. The Workgroup encourages the members and others to continue to work together to develop a coordinated, competitive response when funding opportunities are identified.

Educating a Health Workforce Prepared to Meet North Carolina's Needs

To meet the health needs of the population, North Carolina will need to increase the number of health care practitioners in primary care, behavioral, and oral health, with a particular need for practitioners willing to practice in rural and underserved communities. While the current expansions in educational programs will certainly help, they are not likely to meet the full need alone. North Carolina is a net importer of primary care, behavioral health, and oral health practitioners, meaning the state trains fewer health practitioners in these areas than we need for a population of our size and must rely on recruitment of practitioners from other states and countries.[28] Growth in demand in all of these areas, as well as in emerging roles such as health information technology and care coordinators, fuels the increase in demand for a wide range of allied health workers in primary care as well as behavioral and oral health. School's admissions policies, course offerings, training locations, and scholarship opportunities all affect the types of practitioners produced. North Carolina's schools have the means to steer more students into primary care, behavioral and oral health and to increase students' interest and willingness to serve in rural and underserved communities.

While North Carolina must increase the number of health practitioners being educated in areas of need, we cannot continue to educate and train health practitioners using current models. As discussed in Chapter 8 and later in this chapter, the provision of health care in the field is changing, therefore, education and training models must also change. The health care workforce must understand how to work in and with patient centered medical homes. These function using interdisciplinary teams working together to meet population health needs using electronic medical records while implementing quality improvement practices. Therefore, health professional education curricula and training for both students and the existing workforce must evolve to teach the skills and competencies that the workforce will need such as patient safety, interdisciplinary team based care, quality initiatives, health information technology, and cultural competency. Additionally, curricula and training must incorporate and mirror the patient

centered medical homes and other new models of care in which practitioners will work. These new technologies, models, and standards for the provision of health care must become part of our educational programs so that newly trained health practitioners and the existing workforce can function in emerging models of care.

In order to ensure that North Carolina's health workforce is able to meet the needs of the population and practice effectively in patient-centered medical homes and other new models of care, the NCIOM recommends:

RECOMMENDATION 5.1: EDUCATE HEALTH WORKFORCE USING NEW TECHNOLOGIES AND STRATEGIES IN NEW MODELS OF CARE

a) The North Carolina Community College System (NCCCS), the University of North Carolina University System, the North Carolina Area Health Education Centers Program (AHEC), private colleges and universities with health professions degree programs, and other interested parties, should:
   - **i) Create targeted programs and modify admission policies to increase the number of students and residents with expressed interest in primary care, behavioral health and dentistry, and in serving underserved populations, particularly in rural areas of North Carolina.**
   - **ii) Incorporate successful new models of interdisciplinary, team-based care into training curricula and ensure that students and residents have the opportunity to practice working together in interdisciplinary teams.**
   - **iii) Identify new core competencies needed by the health care workforce including patient safety, quality initiatives, cultural competency, health information technology, and others. Develop educational and training curricula to teach these competencies to students and residents.**
   - **iv) Establish or expand training programs for emerging health workforce roles including community health workers, case managers, client coordinators, patient navigators, and health information technologists.**
   - **v) Establish or expand training programs in community-based ambulatory patient care centers.**

b) AHEC should develop learning collaboratives and other strategies to educate the existing workforce on new core competencies needed by the health care workforce including patient safety, quality initiatives, cultural competency, health information technology, and others.

c) The North Carolina General Assembly should require AHEC to prepare an annual report that includes information detailing progress that has been made, if any, to achieve the goals identified in Recommendations 5.1a, and 5.1b.

d) The North Carolina Employment Security Commission, the Commission on Workforce Development in North Carolina, local workforce development boards, and NCCCS should continue to work together to match laid-off and unemployed workers to new health care job and training opportunities.

The Need for a More Diverse Workforce

Patients benefit from receiving care from a diverse workforce that mirrors the population being served. Increasing under-represented minorities' access to careers in the health professions is one of the goals of the ACA.[29] North Carolina's workforce should mirror the population being served—a population that is increasingly diverse. Minority populations make up 32% of North Carolina's population.[30] While some health professions are quite diverse, including primary care physicians and licensed practical nurses (27% and 31% nonwhite and non-Hispanic, respectively), most lack diversity. Even among the health professions with more diversity, the racial and ethnic makeup of practitioners does not mirror the makeup of North Carolina's population.[31] Research shows that when patients receive care from a provider of the same race/ethnicity they report higher levels of satisfaction, communication and trust, and are more likely to adhere to care instructions. Given these improvements, research suggests patients would also have better health outcomes when they receive care from a provider of similar demographics.[32] North Carolina's military families and veterans have unique needs and having practitioners with military backgrounds or training in working with military families is essential to being able to care for this population.[33] Language and cultural barriers also pose a significant challenge to ensuring all North Carolinians receive high quality care. Increasing the cultural competency of the health care workforce is one of the goals of the ACA.[34] Multilingual practitioners and practitioners from different cultural backgrounds can help increase the quality of care for North Carolina's diverse population.

Health care practitioners from underrepresented minority, ethnic, and racial groups are more likely to serve patients of their own ethnicity or race, patients with poor health, and in underserved communities.[35] Increasing diversity so that the workforce is representative of the population it serves in North Carolina will enhance patient care and improve population health, and may reduce costs. Although many of North Carolina's health care education programs are working hard to increase the diversity of the practitioner workforce, data show the state has a long way to go.[36] Existing successful models for recruiting, training, and placing diverse health practitioners in North Carolina should be identified and enhanced. Therefore, the NCIOM recommends:

RECOMMENDATION 5.2: SUPPORT AND EXPAND HEALTH PROFESSIONS PROGRAMS TO MORE CLOSELY REFLECT THE COMPOSITION OF THE POPULATION SERVED

The North Carolina Area Health Education Centers Program, North Carolina Community College System, the University of North Carolina University System, private colleges and universities with health professions degree programs, and other interested parties, including the Alliance for Health Professions Diversity, should collaborate to create more intensive programs and coordinate efforts to expand and strengthen existing evidence-based health professions pipeline programs. These educational systems and related programs should strengthen their collective efforts so that underrepresented minority, rural, and other disadvantaged students who are interested in entering health careers can receive continued opportunities for enrichment and support in middle school, high school, college, and health professions schools. These entities should work collaboratively to seek foundation

and federal funding to strengthen existing programs, develop new models of educational enrichment, and evaluate the effect of the various programs on the diversity of the health professions in the state. If shown to be effective, the North Carolina General Assembly should provide ongoing program support.

Recruiting and Retaining a Strong Health Care Workforce

North Carolina will not prosper as a whole unless the differences in population health and access to care across the state are addressed. It will take specific incentives and strategies to accomplish this goal. North Carolina should invest more heavily in the health practitioner workforce, particularly in rural and underserved areas of the state.

The federal government provides scholarships or loans to certain types of health care practitioners in return for practicing in a health professional shortage area (HPSA) through the National Health Service Corps (NHSC). In fact, the ACA expands this program—increasing the program by $1.5 billion over five years.[37] NHSC funding can be used to recruit primary care physicians, nurse practitioners, physician assistants, certified nurse midwives, dentists, dental hygienists, psychiatrists, psychologists, licensed clinical social workers, psychiatric nurse specialists, marriage and family therapists, and licensed professional counselors into rural and underserved communities that are designated as HPSAs. North Carolina has 71 counties or parts of counties that are designated as primary care shortage areas, 54 counties (or parts thereof) that are designated as behavioral health shortage areas, and 78 counties (or parts thereof) that are designated as dental shortage areas.[38] Potential practitioners cannot qualify for NHSC funds to locate in North Carolina communities unless they have first been designated as a HPSA with a high enough designation score. The North Carolina Office of Rural Health and Community Care (ORHCC) plays a critical role in this designation process by working with counties to gather and verify information and submit the application to the federal government. The ORHCC also helps recruit eligible health professionals to practice in HPSAs. In addition to federal funding, there is some state and medical society foundation funding for loan repayment for individuals who commit to practice in a HPSA.

The ORHCC helps eligible health professionals apply for the federal and state loan repayment programs. The federal program only funds health professionals in HPSAs that have been rated to have the greatest need. Currently only 34 of the 71 counties or parts of counties that are designated as primary care shortage areas score high enough for health professionals serving in them to be eligible for NHSC loan repayment. Health professionals serving in HPSAs with lower scores, or who are otherwise not eligible for federal funding, can apply for loan repayment through the ORHCC (which uses state funding). The state provides $1.5 million in recurring funding to the ORHCC to support loan repayment for health professionals.

North Carolina, like many other states, is a net importer of primary care, behavioral and oral health practitioners.[39] Thus, we rely heavily on our ability to recruit primary care and behavioral and oral health practitioners to practice in North Carolina. Not surprisingly, many states are competing to attract health professionals using NHSC funding. North Carolina has benefitted from the recent increases in NHSC funding,[40] which allowed the state to increase the number of NHSC practitioners from 70 to 145. However, North Carolina has fewer NHSC practitioners than it should based on its size.[41] Successful recruitment is affected by the amount of staff time

spent understanding the needs of the health professionals and their families as well as the number of eligible HPSA sites in the state. The capacity to recruit and retain health professionals in rural and underserved areas across the state is critical to meet the health needs of North Carolinians. Additionally, increasing the number of practitioners in rural and underserved areas can help improve the local economies and increase an area's attractiveness to businesses. Health care is a knowledge driven industry and the creation of health care jobs brings a high added value to communities. In 64 North Carolina counties, largely rural or economically depressed, the health care industry is one of the top five employers. Data show that in 2008:

- For every $1 produced by the health care industry an additional $0.89 was generated in the state's economy;
- Every $1 in wages/benefits paid to health care industry employees produced an additional $0.55 in other wages/benefits; and
- For every 1 worker employed in the health care industry, an additional 0.72 workers are employed in the state's work force.[42]

The North Carolina Department of Commerce has recruitment funds that it can use to recruit or support industries "deemed vital to a healthy North Carolina." Yet historically, these funds have not been used to support North Carolina's health care industry, despite its critical role to the success of local economies.[43] Because of the way these programs are designed, it is difficult for individual health care practitioners or small group practices, like the ones typically found in our rural areas, to qualify. Therefore, the NCIOM recommends:

RECOMMENDATION 5.3: STRENGTHEN AND EXPAND RECRUITMENT OF HEALTH PROFESSIONALS TO UNDERSERVED AREAS OF THE STATE

In order to support and strengthen the ability of the Office of Rural Health and Community Care (ORHCC) to recruit and retain health professionals to underserved and rural areas of the state, the North Carolina Department of Commerce should use $1 million annually of existing discretionary programs funds to support ORHCC in recruitment and retention of the health care industry and health care practitioners into North Carolina. The funding should be used to:

a) **Provide financial incentives to encourage professionals to remain in practice in health professional shortage areas past their loan repayment obligations.**
b) **Recruit veterans with medical training to practice in North Carolina.**
c) **Provide enhanced technical assistance to areas to increase the number of communities designated as health professional shortage areas (HPSAs) and to improve the counties' HPSA scores.**
d) **Create state-based area and population health professional shortage areas, if this will assist in recruiting practitioners into HPSAs.**
e) **Create and maintain a database of private and public loan repayment opportunities for health professionals working in North Carolina.**

THE IMPACT OF NEW PAYMENT AND DELIVERY MODELS ON THE HEALTH PROFESSIONAL WORKFORCE

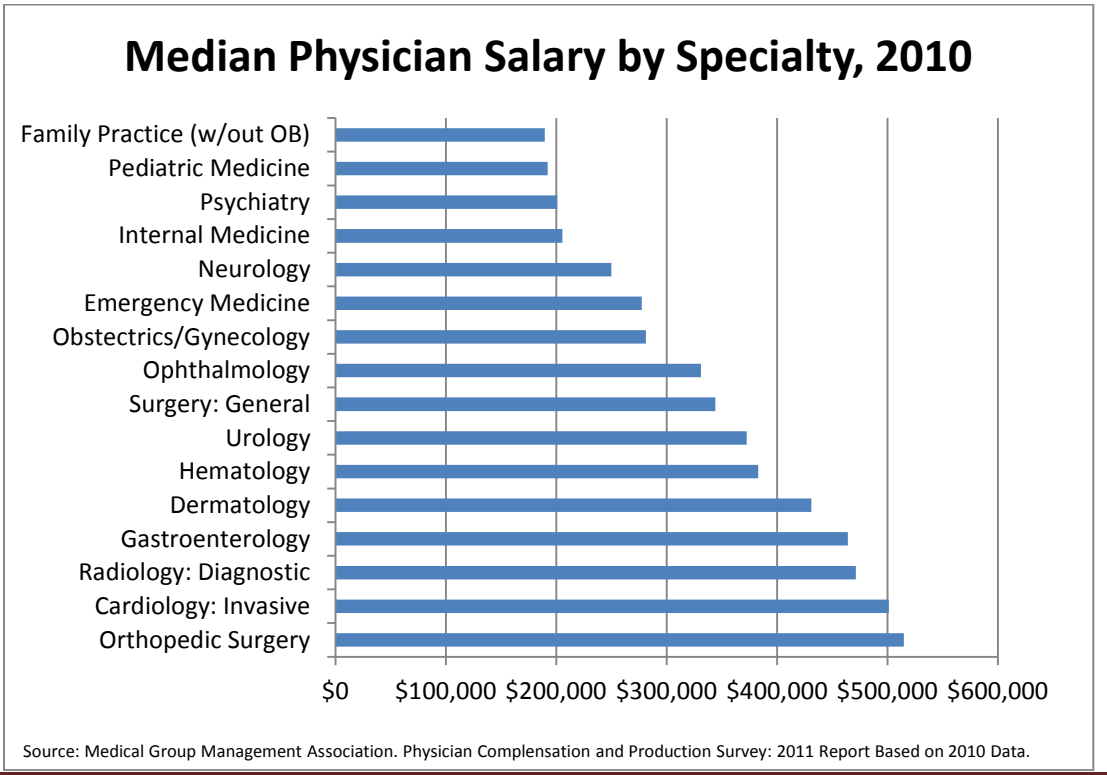
One of the chief goals of the ACA is to redesign the health care delivery system to simultaneously meet three objectives: improve population health, enhance patient care, and

reduce or control the cost of care. Our current health care delivery and payment system does not achieve these goals.

Improving patient outcomes and population health while reducing unnecessary health care expenses will require changes in how we deliver care. As discussed more fully in Chapter 8, some of the common elements in the new models are greater reliance on interdisciplinary primary care teams to manage the care of the patient, shifting the emphasis of care from acute care to preventive care and disease management, engaging consumers in their own care, greater coordination of care across care settings, and use of electronic health records or other information technology to proactively manage patients and to monitor and improve quality. This shift will not be easy. It will involve changing patients' behavior, how practitioners work and interact with patients, and delivery and payment models. Further, we need a strong, robust primary care system to achieve this goal.

The Workgroup discussed many ways to strengthen the existing primary care, behavioral and oral health workforces. One of the core elements is to make sure that health care practitioners are adequately reimbursed. For example, reimbursement rates for primary care are substantially lower than for specialty care, which affects provider incomes and the willingness of students and trainees to go into primary care.[44,45] This difference in reimbursement rates translates into a large differential between the average salaries for primary care practitioners versus specialists. (See Table 1.) Further, a provider's willingness to accept certain insured populations is affected by the payer's reimbursement rates.[46] This can have a profound effect on access to care.

Table 1.
Median Physician Salary by Specialty, 2010



Source: Medical Group Management Association. Physician Complensation and Production Survey: 2011 Report Based on 2010 Data.

To recruit more physicians, nurse practitioners, and physician assistants into primary care and psychiatrists to address the state's mental health needs, and to retain the workforce we currently have will require a rebalancing of how practitioners are paid—rewarding those health care professionals who practice in primary care and psychiatry. In order to encourage health care professionals to enter into primary care or psychiatric practices and to retain current practitioners, the NCIOM recommends:

RECOMMENDATION 5.4: INCREASE REIMBURSEMENT FOR PRIMARY CARE AND PSYCHIATRY SERVICES

Public and private payers should enhance their reimbursement to primary care practitioners and psychiatrists to more closely reflect the reimbursement provided to other specialty practitioners. For purposes of this recommendation, primary care practitioners include, but are not limited to: family physicians, general pediatricians, general internists, as well as nurse practitioners, physician assistants, and certified nurse midwives practicing in primary care.

Medicaid reimbursement rates are of particular concern because traditionally Medicaid reimbursement rates are lower than commercial rates. Low reimbursement rates limit the number of practitioners willing to see patients with Medicaid, particularly dental and behavioral health practitioners.[47,48,49] New proposed federal regulations have been promulgated to create a process for states to use to assure that Medicaid payments "are consistent with efficiency, economy, and quality of care and are sufficient to enlist enough practitioners so that care and service are available under the plan at least to the extent that such care and services are available to the general population in the geographic area."[50] States will be required to monitor access to care and, if needed, take action to ensure adequate access. The Workforce workgroup supports efforts to monitor Medicaid recipient access to care and the requirement that states' take action to ensure access.

The Need for an Integrative Approach to Health Care

The Workgroup believes that our greatest opportunity to improve population health is by providing patient-centered holistic health care including physical, behavioral, and oral health. Patient-centered care requires a shift away from paternalistic care towards a partnership where practitioners work with patients to reach a shared understanding of the problem and course of treatment. In this type of model, patients share in decision-making and responsibility.[51] Research has shown that patient-centered care can reduce primary care charges, the number of diagnostic tests, and referrals—all of which reduce costs and increase the overall efficiency of the system.[52] By taking this approach, the emphasis shifts from treating acute events to providing comprehensive preventive care and treating health problems within a framework focusing on optimizing health over the lifespan. For this shift to occur, the current system must place more emphasis on prevention and primary care.

In integrative health models, all members of the health care team are valued for their contribution to overall health, from primary care practitioners, to oral and behavioral health practitioners, to allied health practitioners such as physical and occupational therapists, nutritionists, health information technologists, and others. In an integrative model, different

types of health practitioners work seamlessly together to ensure that the patient gets the right kinds of care, at the right time, from the right person.

New Workforce Models are Needed

While demand for primary care is expected to increase due to the ACA, the primary care physician workforce is shrinking due to declining interest and retiring practitioners. Only 32% of physicians in the United States practice primary care. Fewer than 18% of medical students are expected to practice primary care, and large numbers of primary care physicians are expected to retire in the next decade.[53] Nurse practitioners and physician assistants face similar challenges with increasing specialization away from primary care.[54]

Additionally, as part of the ACA, the types of care covered by health insurance plans are expanding. There are new requirements for covering preventive services,[55] mental health and substance abuse services,[56] women's health services,[57] and others. This expansion in what is covered by most health insurance plans could further increase time demands on primary care practitioners. A study looking at the time demands on primary care physicians showed that 4.6 hours per working day is spent on acute health problems. Comprehensive high-quality management of the 10 most common chronic diseases would require an additional 10.6 hours per day. An additional 7.4 hours a day would be needed if these physicians were to also try to meet the preventive services recommendations for all of their patients. For individual physicians to meet the comprehensive health requirements of their patients, they would need to spend almost 23 hours of every work day providing patient care.[58] Clearly this is not a sustainable model.

In the existing system, patients are not getting all the recommended care, primary care practitioners are often overwhelmed, and new health care practitioners are less interested in going into primary care.[59,60] While more practitioners may be one element of the solution in the long run, a more immediate solution is to explore innovations in the way the current workforce is deployed. The Workgroup believes the best way to solve these problems is to explore alternatives to the traditional care delivery model with its strong emphasis on physician provided care. Models of care that use a variety of health practitioners—physicians, nurse practitioners, physician assistants, and the allied health disciplines—working together as a team to care for patients are needed. In such models, each team member should practice to the full extent of their education and competence. For example, physicians could focus on patients requiring a high level of expertise, nurse practitioners and physician assistants could provide acute and chronic care within the scope of their training, registered nurses could educate patients with chronic conditions to improve self-management, and medical assistants could provide care coordination.[61]

Approaches that encourage delegating tasks from physicians and nurses to other capable, trained practitioners provide opportunities for savings and increased productivity.[62] Expanding the education of current practitioners could allow the current system to expand its capacity without adding additional practitioners. Utilizing all health practitioners at the highest level they are able to contribute within their education will increase the effectiveness and efficiency of the existing workforce. Currently complex federal and state rules about reimbursement and requirements for scope of practice, licensure, and staffing ratios limit the ability of practitioners to implement such models.[63] Therefore, the Workgroup supports the examination of state regulations and

licensure board requirements to improve the regulatory environment for all licensed health practitioners. (See Recommendation 8.4 in Chapter 8.)

Current restrictions by payers limit the types of health practitioners that can provide services and the types of services that can be billed. Typically only face-to-face care provided by physicians, nurse practitioners, and physician assistants can be billed.[64] The current fee-for-service model limits the use of team-based care. Innovative payment models such as capitation or bundled payments would give interprofessional teams more discretion to delegate delivery of needed services. (For more discussion of new models of care, see Chapter 8.) The use of new payment models is essential if other types of health practitioners, both professional and lay health workers, are to be fully utilized as members of the health care team. Therefore, the Workgroup strongly supports testing of new Medicaid, Medicare, North Carolina Health Choice, and private insurance payment models that would allow for workforce innovations in the provision of care.

Changes in the model of primary care provision could make the existing workforce more productive and care more cost effective, while improving patient experiences and outcomes.[65] The Workgroup strongly supports the rethinking of current practice models to create more effective, productive, and efficient models of health care provision. Research shows that successful models rely on strong teamwork and incorporate meaningful use of technology.[66] Exactly what these models look like and what the appropriate mix of health care practitioners is cannot be understood without testing out innovative new payment and delivery models. Therefore, the Workgroup supports the work of the New Models of Care Workgroup to foster innovations in the way health care is provided and paid for with the goal of more productively using the existing workforce. (See Chapter 8.)

THE STATE HAS A VESTED INTEREST IN HEALTH PRACTITIONER WORKFORCE PLANNING

The increase in the number of individuals with health insurance happens at a time when the health workforce, particularly primary care practitioners, is under the increased stress of trying to provide for the aging baby boomer population. The addition of approximately 800,000 newly insured patients in North Carolina will further increase the burden on the existing health care systems. Comprehensive workforce planning is needed if North Carolina hopes to meet the workforce challenges raised by the ACA.

Health Industry Vital to North Carolina's Economy and Well-Being

Health care plays a major role in North Carolina's economy. One out of every eight North Carolinians works in the health care field (12.6% or 487,933 individuals).[67,68] This makes the health care industry one of the largest employment sectors in North Carolina. Only the trade, transportation, and utilities sector employs a larger percentage of the workforce. In most North Carolina communities, health care is one of the largest employers.[69] In 2008, North Carolina's health care industry produced over $46.3 billion in revenue and wages and contributed an additional $41.4 billion in health care goods and services.[70]

As North Carolina looks at areas of growth in the economy, the health care industry, and particularly the health care workforce, offers one area for consistent and continuous job growth.[71] Even before the ACA, the United States Bureau of Labor Statistics and the North Carolina Employment Security Commission estimated that employment in the health care

industry would grow faster than almost any other industry.[72,73] Although the health care industry is one of the bright spots in North Carolina's lagging economy, the state does very little to plan for how to meet the workforce needs of the health care industry.

Although the state does not proactively work to identify health workforce needs, North Carolina does play a major role in the production of the health care workforce by underwriting the cost of education. In 2010-2011, the state spent $508 million to support medical education programs and students in the University of North Carolina system.[74] In addition, the state provided $112 million to the North Carolina Community College System in 2011-2012 to support medical education.[75] In addition to underwriting the education of the health care workforce, the state is also a major consumer of health care as a payer of medical claims for the 2.5 million North Carolinians who have health insurance coverage through Medicaid, North Carolina Health Choice, and the State Health Plan.[76,77] This number is expected to increase to approximately 3 million if the state chooses to expand Medicaid eligibility.[78,79] For these programs to function well, there must be adequate numbers of health practitioners to meet needs.

Limited Workforce Planning is Occurring

The Cecil G. Sheps Center for Health Services Research's Health Professions Data System (HPDS), housed at the University of North Carolina at Chapel Hill, has descriptive data about most of the licensed health professions in the state. The HPDS collects data on the supply and distribution of 20 types of licensed health professionals including physicians, nurses, dentists, pharmacists, and psychologists.[80] Data from the HPDS allow local communities and the state to assess the current workforce.[81] Data from the HPDS do an excellent job highlighting the geographic variations in the health practitioner workforce. For example, data show that in 2010 there were 9.4 primary care physicians per 10,000 people in North Carolina. Orange and Durham counties had the highest concentrations (33.5 and 24.8 per 10,000 residents respectively) while Tyrell and Gates had the lowest concentrations with less than 1 physician per 10,000 residents. North Carolina has more data on the health care practitioner workforce than most states; however, even this data is limited. For example, the HPDS does not currently collect data on certain licensed behavioral health professionals, including licensed clinical social workers, licensed professional counselors, or licensed clinical addiction specialists, which makes it difficult to examine the adequacy of the existing behavioral health workforce. Further, data are not available to forecast the workforce supply or to assess whether the existing and future workforce can meet the expected sharp increase in demand for services in 2014 and future years.

The HPDS team, in partnership with the North Carolina Commission on Workforce Development and funding from a federal Workforce Planning Grant, worked with stakeholders to create a long-term plan for developing newly emerging roles in the state's health practitioner workforce. The group worked to identify new health workforce roles, certifications and trainings, career pathways, and strategies to increase the supply of new types of health care practitioners. However, this funding ended in 2012 and there is no ongoing support for this type of in-depth analysis thereafter. This is the type of work that needs to be done for all types of health practitioners as part of a comprehensive effort to identify North Carolina's health practitioner workforce needs and strategies for meeting those needs.

Many Roadblocks to Increasing Health Practitioner Workforce

The ACA authorizes funding to create or expand programs that provide loans, scholarships, and grants to health practitioners. While the ACA authorizes many programs, little funding was appropriated for new workforce training programs. If funded, these programs would be targeted to increase the size of the primary care workforce at all practitioner levels, increase racial and ethnic diversity of the health professional workforce, and provide incentives to work in rural and underserved areas. Even if these funds were available, North Carolina faces ongoing health professions faculty shortages at many of our community colleges, colleges, and universities. Faculty shortages are the result of both a lack of properly trained individuals and, in some cases, salaries that are inadequate to compete with the private market. In addition to faculty shortages, North Carolina does not have enough primary care clinical training sites. Research shows that individuals who receive training in primary care locations are more likely to go into primary care.[82] Training sites that incorporate new models of care, such as team-based care, are also lacking.

Given the role of the health care industry in North Carolina's economy, the amount of money the state invests in educating health care practitioners, and the state's role in financing insurance coverage for certain populations (including current and retired state employees and teachers, Medicaid, and North Carolina Health Choice), there is a pressing need for North Carolina to identify workforce priorities and to create policies that ensure there are enough practitioners with the proper training to meet the health care needs of the population. Therefore, the NCIOM recommends:

RECOMMENDATION 5.5: SUPPORT COMPREHENSIVE WORKFORCE PLANNING AND ANALYSIS

- **a) The North Carolina Health Professions Data System should be expanded into a Center for Health Workforce Research and Policy to proactively model and plan for North Carolina's future health workforce needs. As part of their work the Center should:**
  - **i) Identify, collect, and develop data streams to model future health practitioner workforce needs. Potential data need to include:**
    - **A) Population health measures including health status and socio-demographic factors that may influence future health care needs.**
    - **B) Practice level data such as geographic location, types of practitioners employed, types of health insurance accepted, number of patients, services provided, and other capacity information.**
    - **C) Health practitioner workforce data including demographic, practice, and educational characteristics.**
    - **D) Higher education data on the number of students in health education programs as well as tracking information to see where and what students end up practicing.**
  - **ii) Use aforementioned data streams to:**
    - **A) Analyze the link between workforce supply, costs, and outcomes.**
    - **B) Identify practitioner shortages by specialty and geographic location.**
    - **C) Identify barriers to expanding the health practitioner workforce in areas of need.**

D) Plan for the state's future workforce needs by identifying priorities for training and education funding.

E) Report on the diversity of the health professions workforce in the state on an annual basis.

F) Address barriers that affect entry into the health care workforce or continued practice. As part of this work, the Center should examine:

(1) State regulations and licensure board requirements to improve the regulatory environment for all licensed health practitioners. This examination should allow all health practitioners to be able to practice to the full extent of their education and competence.

(2) Public and private insurance payment policies that create barriers to entry and continued practice.

(3) Barriers to effective team care.

iii) Report its findings and proposed recommendations on an annual basis to the North Carolina General Assembly, the Governor, the Department of Health and Human Services, and the Department of Commerce.

b) The Center should have an advisory board that includes representatives from the North Carolina Department of Health and Human Services, North Carolina Department of Commerce, North Carolina Office of Rural Health and Community Care, North Carolina Area Health Education Centers program, the North Carolina Community College System, The University of North Carolina General Administration, the five North Carolina academic health centers, private health professional education institutions, relevant professional associations and licensing boards, the Council for Allied Health in North Carolina, the North Carolina Hospital Association, North Carolina Medical Society Foundation, insurers, and nonmedical public members.

c) The North Carolina General Assembly should provide $550,000 in recurring funding beginning in SFY 2013 to support the Center for Health Workforce Research and Policy.

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