

# Improving Oral Health in North Carolina: Exploring the Potential of a New School of Dentistry at East Carolina University

*Michael J. Lewis, MD, PhD, D. Gregory Chadwick, DDS, MS, and F. Terri Workman, JD*

Dental care is an essential component of healthcare. Inadequate attention to dental health issues can have deleterious effects on the health of our population at every age level and especially among school-age children and the adult workforce. North Carolina faces enormous challenges, as do other states, in both the recruitment and retention of dentists serving rural and low-income areas. While it is clear that dental care technologies and modes of clinical practice have made it easier, more efficient, and, often, less costly to serve larger numbers of patients' dental care needs with the same number of dental care providers, there are demographic challenges. In our rural and smaller counties, there is a serious shortage of dentists, and a number of these dentists are nearing the age of retirement. The opportunity for dentists in rural and smaller counties to implement these technological efficiencies is not likely to be in place for many more years.

Since the publication of the North Carolina Institute of Medicine Task Force Report on Access to Dental Care for Low-Income Persons,<sup>1</sup> there has been a growing consensus that the state faces a shortage of dentists, and that the supply is not likely to meet demand in the near-term, given current levels of productivity from the existing School of Dentistry at the University of North Carolina at Chapel Hill (UNC-Chapel Hill) or the recruitment of dentists from other states and schools of dentistry.

## The Current Dental Workforce and North Carolina Demographics

In North Carolina, the dental workforce is growing older; in order to keep current ratios of dentists-to-population, we will need to replace at least one third of the 3,628 dentists in the current professional workforce in the next ten-20 years. As important, the number of dentists of African-American or other minority-group status is only 10% compared with a state

population that is 34% nonwhite. There are as many as 40 North Carolina counties where no dentists provide services to persons covered by Medicaid. Four counties (in eastern North Carolina) have no dentists. There are too few pediatric dentists in North Carolina (a total of 108 as of 2004, representing 3% of the total North Carolina dental workforce), and there are many counties, particularly in the eastern part of the state, where residents would have to drive at least two hours to find an emergency care facility that would be able to treat the dental care needs of a child. It is estimated that North Carolina needs an additional 1,209 dentists to enter practice over the coming ten-20 years—without considering the impact of deaths and relocations of North Carolina dentists out-of-state—to meet the anticipated needs represented by current demand.

North Carolina was the 11th largest state as of 2000 in terms of total population (8.0 million), and it is one of the seven fastest growing states. With a population of 8.4 million in 2003, North Carolina is predicted to become the seventh largest state by 2030 (with a population of 12.2 million) and absorb the seventh largest population increase among the 50 states.<sup>2</sup> North Carolina has the second largest number of rural residents; only Pennsylvania has more.

Nationally, there are 5.7 dentists per 10,000 population. As of 2004, North Carolina had 4.2 dentists per 10,000, representing a slight increase since 2003. The ratio of dentists-to-population is quite different in metropolitan and rural areas of the state. Urban areas have a ratio of 4.8 dentists per 10,000 population, while rural areas have only 3.1 dentists per 10,000 population in rural areas. Despite the rapid increases in our state's population, the dentist-to-population ratios for North Carolina have remained relatively unchanged since 1987, and North Carolina's ratios are consistently low by national standards. It is significant that only eight out of 100 North Carolina counties have dentist-to-population ratios that either meet or exceed the national level of 5.7

---

**Michael J. Lewis, MD, PhD**, is Vice Chancellor for Health Sciences at East Carolina University. He can be reached at lewismi@mail.ecu.edu or AD-48 Brody Medical Sciences Building, Greenville, NC 27834.

**D. Gregory Chadwick, DDS, MS**, is Associate Vice Chancellor for Oral Health at East Carolina University.

**F. Terri Workman, JD**, is Associate Vice Chancellor for Health Sciences at East Carolina University.

dentists per 10,000 population, while as many as 28 counties have only two dentists or fewer serving 10,000 or more people.

To bring the state as a whole up to the *national* level of 5.7 dentists-per-10,000 population, would require the addition of 1,251 dentists. If an effort were made to raise the ratio of dentists-to-population statewide to the *current state rate for urban areas* (i.e., 4.8 dentists per 10,000 population), an additional 480 dentists would be required. Since retirements, deaths, and relocations further increase the number of needed dentists, it is clear that current state efforts to produce more dentists cannot meet either of these goals.

### **The East Carolina University Response: A New School of Dentistry in Eastern North Carolina**

It is against this background of need and demand for dental care in North Carolina that the Chancellor and Trustees of East Carolina University (ECU) propose to initiate the planning process leading to the development of a four-year school of dentistry in Greenville. ECU offers an appropriate location and academic venue for such a school. The University is located in and serves a geographic region of the state with a clear need for additional dental care and resources. Moreover, the professional dental community in Greenville and surrounding counties of

small and socio-economically disadvantaged populations. An examination of the data shows that a large proportion of the populations in several counties of eastern North Carolina have incomes that place them below federal poverty guidelines (FPG). Although the percentage of their populations living in poverty since 1980 has declined, 31 out of the 41 counties have as many as 20% of their children living in poverty. Further, median household income in North Carolina statewide was a modest \$38,194 in 2002, but in only four of these 41 counties does median household income rise above this statewide average. Families in these lower-income areas have less disposable income and healthcare purchasing power as well as limited access to public health and other subsidized sources of dental or other healthcare.

ECU is in the fortunate position of having existing land sufficient to accommodate the footprint of any physical plant for a new school of dentistry that might be designed. Moreover, the utilities infrastructure within the Health Sciences campus is already in place and will not require significant upfitting to facilitate such construction. The implications of adding a school of dentistry to the Health Sciences Division have been carefully considered, and the faculty and administration at ECU and, in particular, at the Brody School of Medicine, are well aware of the demands of adding yet another healthcare professional school at ECU.

*“...the new school of dentistry at ECU will give emphasis and exposure to the variety and excitement of practice in communities throughout North Carolina where dental care is presently in short supply.”*

eastern North Carolina has given strong support and encouragement to the idea of a new school of dentistry located in Greenville.

There is no question that the oral healthcare needs of North Carolina's underserved populations will require multiple, not single, strategies. Moreover, the persistent and urgent need for additional dentists, particularly in the largely rural areas of eastern North Carolina and the western-most counties of the state, validates the need for multiple initiatives if the oral health of North Carolina's population is to improve. But, a critical factor in all of these policy deliberations is the adequacy of professional dental workforce supply, as well as the geographic maldistribution of these professionals within the state.

#### **Eastern North Carolina Demographics**

Eastern North Carolina is a region characterized by both

ECU is proposing to develop a dental school with a mission similar to the one embraced by the Brody School of Medicine at the time of its inception. With this history and the current need as guideposts, it is our intent to develop a “community-oriented” school of dentistry. By this terminology we specifically refer to our intent to develop a school of dentistry whose primary mission will be to attract into the profession individuals of high intellectual capacity who have a desire to practice dentistry in this state, and who are oriented toward a professional lifetime career of service to communities in need of high-level dental care. Moreover, the new school of dentistry at ECU will give emphasis and expo-

sure to the variety and excitement of practice in communities throughout North Carolina where dental care is presently in short supply.

Many of the students admitted to the Brody School of Medicine are from rural and underserved counties, are identified as having a passion for primary care and are given intensive exposure to the day-to-day challenges of serving populations with either socio-economic or other barriers limiting access to care. Students are also enabled to visit and learn about constructive and effective healthcare organizations within the region that have made substantial efforts to meet the needs of these traditionally underserved populations. This same approach to be integrated with the overall plan for an ECU school of dentistry will be developed in partnership with local public health and dental professionals in private practice throughout the region.

*“Our intent is to develop a school of dentistry whose primary mission will be to attract into the profession individuals of high intellectual capacity who have a desire to practice dentistry in this state, and who are oriented toward a professional lifetime career of service to communities in need of high-level dental care.”*

ECU embraces a global commitment to the community-based practice of dentistry, whether among those now in practice who will become involved as adjunct clinical faculty assisting our students in understanding the challenges of practice in the local settings where these practitioners now reside, or whether it is in our programs that help graduating students select a practice location where their services will be most needed and where they can satisfy both professional and personal goals.

### **Feasibility of a New School of Dentistry at East Carolina University**

As the proposal for a new school of medicine at ECU was taking shape in the 1970's, it was the intent that this institution would address what was widely viewed as a shortage of primary care physicians in the state, particularly those serving in rural and underserved counties. Although the goals of the new school of medicine at ECU were widely shared as highly salient policy objectives, there was anxiety over how a second publicly-supported medical school would impact the existing four-year school of medicine at the University of North Carolina at Chapel Hill. In the 24 years since the graduation of its first four-year class, the Brody School of Medicine has clearly delivered on its mission. The school has (1) improved access to care; (2)

graduated classes of physicians with a high proportion choosing to practice in North Carolina after finishing their clinical residencies, one of the highest percentages of in-state practice locations among United States medical schools; and, (3) graduated one of the nation's highest percentage of graduates who have chosen to practice in primary care fields. In addition, the Brody School of Medicine often has one of the highest percentages of minority population graduates of all the United States medical schools. In fact, last year, the school was number one in the United States (with the exception of the three historically African American schools of medicine). Given the low percentage of minority dentists (10%) in North Carolina contrasted with the growing need for minority providers, this would be a great advantage.

Moreover, the claims or the fears that the existence of a medical school at ECU would threaten the programs and strengths of the medical school at UNC-Chapel Hill have not been borne out. While the two institutions are different in so many ways, having different overall philosophies and programs, each serves the state in distinctive ways. The schools enjoy a collaborative relationship in both educational and research ventures. A new school of dentistry would continue with this same level of collaboration to benefit of the people of North Carolina.

### **Conclusion**

This proposal is offered by *East Carolina University* for it is now clear, and has been clearly demonstrated through our very successful Brody School of Medicine, that we know how to do this, and have done it successfully. This proposal is offered because *the people of North Carolina deserve no less.* **NCMedJ**

---

### **REFERENCES**

- 1 NC Institute of Medicine (NC IOM). North Carolina Institute of Medicine Task Force on Dental Care Access. Report to the North Carolina General Assembly and the Secretary of the NC Department of Health and Human Services. NC IOM: Durham, NC: 1999. Available at: <http://www.nciom.org>. Accessed October 2005.
- 2 US Census Bureau, Population Division, Interim State Population Projections, 2005 (Release date: April 21, 2005).