Projecting the Need for Medical Education in Texas

July 2002
Texas Higher Education Coordinating Board

This report is available on the Coordinating Board website at http://www.thecb.state.tx.us/UHRI/ProfSchools.htm
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Introduction

Estimating the number of physicians that Texas will need to serve its increasing population is a complex task. Simple extrapolation of existing ratios of physicians to population is too simplistic to provide great confidence in the results, even at the statewide level. Such an extrapolation would assume that the state has or knows the right ratio now, that the people of Texas will continue to access and use physician services in the future in the same way they do now, and that many factors beyond state control (the effects of managed care and federal reimbursements, for example) will continue much the same as they are at present. Those assumptions easily could be wrong, but an inability to foresee the future does not remove the need to try and plan for it.

Beyond projecting the number of physicians the state will need is the consideration of how many the state will educate within its borders and how many will be educated elsewhere. If the state decides to increase the number of physicians that it educates, determining whether they will be produced by increasing the class size of existing medical schools or creating new ones adds additional complexity. Finally, if the state decides to create a new school or schools, the educational, health, and economic development benefits conveyed by the presence of a medical school prompt the interest of many communities, further complicating eventual decisions.

To address these issues and similar questions arising for other professional fields, the Coordinating Board in April 2002 adopted a Methodology for Projecting the Need for Professional Education in Texas. The Board directed the staff to apply the Methodology to the various professional fields (medicine, law, veterinary medicine, pharmacy, dentistry, and perhaps others) in succession. This document is the first fulfillment of that directive.

The Methodology principally projects the need for professional education on the basis of only two factors: the need the people of Texas have for professional services, and the need for opportunities to become "professionals." Accordingly, the Methodology builds a framework for analysis through two questions: Is there an increasing need/demand for services? and Is there increasing demand from people who want to be "professionals?" The Methodology, however, does not presume that those are the only factors on which a decision to create a new professional school should be based. (See Appendix A-87 for the full text of the Methodology.)

This report applies the Methodology to medical education in Texas. After presenting background demographic data, this report offers the results of the Coordinating Board staff's analysis as short assessments of various data, most of which is displayed in graphs and tables. Much additional data and information are available in the many (88) appendices accompanying the document. The report, with findings and recommendations (see page 25), was adopted by the Texas Higher Education Coordinating Board on July 18, 2002.

The Coordinating Board will provide its recommendations to the Legislature and to boards of regents, along with its acknowledgement that any decision to create a new professional school should be based not only on needs identified through an analysis of projected demand for services and demand for opportunity, but on consideration of factors such as costs and benefits, examination of various approaches, effects on existing schools, and the states priorities, needs, and financial capabilities at the time a decision is made. (Methodology, pp.4-5)
I. Demographic Trends in Medical Education – The Nation and Texas

A. Gender

More women are becoming physicians.

Source: Association of American Medical Colleges Data Warehouse

Enlarged version of this chart found in Appendix 24.

*Includes M.D. and D.O. degrees
Sources: Texas Higher Education Coordinating Board; Institutions

Enlarged version of this chart found in Appendix 25.
B. Ethnicity
1. Hispanic and Black populations are proportionally under-represented in medical schools.

Comparison of U.S. Population and M.D. Degrees Conferred by U.S. Medical Schools by Ethnicity

(15,778 M.D. Degrees Conferred in U.S. in 2001)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>69.1%</td>
<td>66.6%</td>
</tr>
<tr>
<td>Black</td>
<td>12.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12.6%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Asian/Paci.is.</td>
<td>3.7%</td>
<td>19.8%</td>
</tr>
</tbody>
</table>

Sources: 1) Population: U.S. Census Bureau, 2000; 2) Degrees: Association of American Medical Colleges Data Warehouse

Enlarged version of chart above found in Appendix 27; chart below found in Appendix 28.

Comparison of Texas Population and Medical Degrees Conferred by Texas Medical Schools by Ethnicity

(1,225 Medical Degrees Conferred in Texas in 2001)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>52.4%</td>
<td>63.2%</td>
</tr>
<tr>
<td>Black</td>
<td>11.5%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>32.0%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Asian/Paci.is.</td>
<td>2.1%</td>
<td>21.1%</td>
</tr>
</tbody>
</table>

Sources: 1) Population: U.S. Census Bureau, 2000; 2) Degrees: Texas Higher Education Coordinating Board, Institutions
2. Under-representation has changed relatively little in the last 10 years.

### M.D. Degrees Conferred by U.S. Medical Schools by Ethnicity

Total # Degrees: 15,355 15,475 15,507 15,883 15,891 15,894 15,969 16,008 15,712 15,778

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian/Pac. Is.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>75%</td>
<td>12%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1992-93</td>
<td>74%</td>
<td>13%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1993-94</td>
<td>71%</td>
<td>16%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1994-95</td>
<td>70%</td>
<td>16%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1995-96</td>
<td>69%</td>
<td>16%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1996-97</td>
<td>69%</td>
<td>16%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1997-98</td>
<td>66%</td>
<td>16%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1998-99</td>
<td>66%</td>
<td>19%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>1999-00</td>
<td>66%</td>
<td>19%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>2000-01</td>
<td>66%</td>
<td>20%</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

*Includes M.D. and D.O. degrees.

Source: Association of American Medical Colleges Data Warehouse
*Enlarged version of this chart found in Appendix 26.*

### Degrees Conferred by Texas Medical Schools by Ethnicity*

Total # Degrees: 1,123 1,113 1,117 1,156 1,167 1,174 1,191 1,231 1,255 1,203 1,225

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian/Pac. Is.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>76%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>1991-92</td>
<td>73%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>1992-93</td>
<td>73%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>1993-94</td>
<td>72%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>1994-95</td>
<td>71%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1995-96</td>
<td>69%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1996-97</td>
<td>70%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1997-98</td>
<td>63%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1998-99</td>
<td>62%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>1999-00</td>
<td>61%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>2000-01</td>
<td>63%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

*Includes M.D. and D.O. degrees.

Sources: Texas Higher Education Coordinating Board; Institutions
*Enlarged version of this chart found in Appendix 33.*
C. Number of medical graduates

The number of Texas medical school graduates has remained relatively “flat” over the last 20 years.

![Population, Graduates, & Physicians Chart](chart.png)

Sources: Texas State Board of Medical Examiners; Texas Department of Health

*Enlarged version of this chart found in Appendix 64.*

D. Where do we educate them?

![Medical Schools Map](map.png)

Texas has 8 medical schools (7 public and 1 independent)

Medical schools generally are located in large metropolitan areas

Sources: Texas Higher Education Coordinating Board; Institutions

*Enlarged version of this map found in Appendix 69.*
First-Year Entering Enrollment Trends in Texas Medical Schools

Baylor – Baylor College of Medicine
TAMU-HSC – Texas A&M University System Health Science Center
TTUHSC – Texas Tech University Health Sciences Center
UNTHSC – University of North Texas Health Science Center at Fort Worth
UTHSC-H – The University of Texas Health Science Center at Houston
UTHSC-SA – The University of Texas Health Science Center at San Antonio
UTMB – The University of Texas Medical Branch at Galveston
UTSWMC – The University of Texas Southwestern Medical Center at Dallas

Sources: Texas Higher Education Coordinating Board; Institutions
Enlarged version of this chart found in Appendix 13.
II. The Availability of Physicians in Texas

A. Statewide

1. Texas has fewer physicians per 100,000 population (152) than the national average (196).

2. Texas has fewer physicians per 100,000 population (152) than the 10-most-populous states' average (191).

3. Texas is at the low end of the range for the number of physicians per 100,000 population recommended by the U.S. Department of Health & Human Services (145-185, Texas - 152).

B. Regional

Physicians are not evenly distributed among the Texas population. Some regions have markedly fewer physicians per 100,000 population than others.
Physicians per 100,000 Population

In 2000
Statewide Average:
152 per 100,000
10 Most Populous States:
191 per 100,000
(Texas – 10th)
National Average:
196 per 100,000
(Texas – 40th)

Recommended by U.S. Dept. of Health & Human Services: 145-185 per 100,000

Sources: American Medical Association; Texas Department of Health; Texas State Data Center; Texas State Board of Medical Examiners
Enlarged version of this map found in Appendix 56.

Maldistribution of Physicians

- Many Texas regions remain underserved
  - 77 percent of Texas counties have fewer than 100 physicians per 100,000 population
  - 24 Texas counties have no physician
  - 19 Texas counties have one physician
C. Potential influences on future availability of medical services

1. Changing patterns of service delivery (physician extenders)

   Physician assistants and nurse practitioners may be more widely used.

2. Telemedicine

   May enhance delivery of specialist services (consultations, etc.).
D. What influences practice location?

1. Place of birth
   Grow up rural, more likely to practice rural (anecdotal)

2. Location of medical school
   Probably some undetermined influence (anecdotal)

3. Location of residency training
   Likely influences practice location

4. Other factors
   Potential income, availability of colleagues, malpractice insurance issues, etc.

E. Pathway to physician supply

1. Texas does not now educate enough medical students and residents to meet projected needs.

Pathway to Physician Supply

- 1,200 physicians graduated from Texas medical schools in 2000
- 1,339 physicians entered residency training in Texas in 2000
- Annual average increase in number of new physicians in Texas:
  Gains (2,669) – Losses (1,614) = 1,055

Source: Texas Medical Association
2. Texas is a “net importer” of physicians

44 percent graduated from a Texas medical school, 35 percent come from other states, and 21 percent come from other countries.

Where Texas Physicians Went to Medical School (2000)

Note: An average of 58% of Texas medical school graduates end up practicing in Texas after residency training, regardless of residency training locations. A survey by the Texas Medical Association (1996) showed that 75% of Texas physicians completing residencies planned to stay in Texas.

Sources: Texas Medical Association; U.S. Department of Health and Human Services, Health Resources and Services Administration; and the Texas State Board of Medical Examiners

Enlarged version of this pie chart found in Appendix 65.

3. Among the 10 most populous states, Texas has an “average” number of physician (M.D.) residents per 100,000 population. Note: Staff is attempting to obtain comparable data for osteopathic residencies.
III. Opportunities for Texas Students to Obtain Medical Education

A. Projected over time

Increasing actual and projected number of baccalaureate graduates, essentially unchanged physician production. *Enlarged version of following chart found in Appendix 70.*

### Baccalaureate Degrees, Medical Applications & First-Year Enrollments

<table>
<thead>
<tr>
<th>Year</th>
<th>Applications</th>
<th>Baccalaureate Degrees (thousands)</th>
<th>1st Year Enroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>53</td>
<td>1,204</td>
<td>90</td>
</tr>
<tr>
<td>1985</td>
<td>55</td>
<td>1,216</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>60</td>
<td>1,220</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>67</td>
<td>1,281</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>74</td>
<td>1,302</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>78</td>
<td>1,323</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>84</td>
<td>1,345</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>90</td>
<td>1,365</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Texas Higher Education Coordinating Board, Institutions*
1. The number of baccalaureate degrees awarded for each available medical school slot is increasing.

**Baccalaureate Degrees Awarded in Texas Per Entering Texas Medical School Slot**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bacc. Degrees Awarded Per Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>44</td>
</tr>
<tr>
<td>1985</td>
<td>45</td>
</tr>
<tr>
<td>1990</td>
<td>49</td>
</tr>
<tr>
<td>1995</td>
<td>52</td>
</tr>
<tr>
<td>2000</td>
<td>58</td>
</tr>
<tr>
<td>2005</td>
<td>60*</td>
</tr>
<tr>
<td>2010</td>
<td>64*</td>
</tr>
<tr>
<td>2015</td>
<td>68*</td>
</tr>
</tbody>
</table>

*Projected.

Source: Texas Higher Education Coordinating Board; Independent Colleges & Universities of Texas, Inc. *Enlarged version of this chart found in Appendix 71.*
2. From a peak in 1995, applications to medical schools in Texas and the nation have declined.

Sources: 1) U.S. MD: Assoc. of American Medical Colleges Data Warehouse; 2) U.S. DO: American Assoc. of Coll. of Osteopathic Medicine Application Service; 3) Texas: Texas Higher Education Coordinating Board, Institutions

*U.S. applicant data includes unduplicated applicants to programs leading to M.D. and D.O. degrees; Texas applicant data includes duplicated applications to programs leading to M.D. and D.O. degrees.

Enlarged version of this chart found in Appendix 1.
3. Since 2000, 90-95 percent of “qualified” applicants from Texas have been accepted to medical school.

<table>
<thead>
<tr>
<th>Texas Medical and Dental Schools Application Service</th>
<th>Qualified* Texas Residents Not Accepted to Medical School</th>
<th>For entry years 2000, 2001 and 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2001</td>
</tr>
<tr>
<td>Total Number of Qualified* Texas Resident Applicants</td>
<td>1332</td>
<td>1404</td>
</tr>
<tr>
<td>Number accepted to at least one Texas Medical School</td>
<td>1180</td>
<td>1332</td>
</tr>
<tr>
<td>Number not accepted to a Texas Medical School</td>
<td>152</td>
<td>72</td>
</tr>
<tr>
<td>Number accepted to Medical School outside of Texas</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Number of Qualified* Texas Resident Applicants not accepted to any U.S. medical school</td>
<td>139</td>
<td>67</td>
</tr>
<tr>
<td>Number that reapplied the following year</td>
<td>65</td>
<td>39</td>
</tr>
<tr>
<td>Number of reapplicant accepted in following year</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Number not accepted after applying 2 years</td>
<td>99</td>
<td>48</td>
</tr>
</tbody>
</table>

Data Source: Texas Medical and Dental Schools Application Service (TMDSAS), The University of Texas System Office

NOTE: For the purpose of this report, *qualified applicants are defined as those applicants who were listed by any participating TMDSAS medical school as acceptable to the school for the admissions match.

* 2002 data reflects acceptance through June 10, 2002. Additional offers of acceptance may be made until the beginning of classes in August, 2002.

June 10, 2002

Enlarged version of this chart found at Appendix 73.
B. Compared to other states

Texas provides its citizens an “average” statewide opportunity to attend medical school in-state, compared to other states.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>33.9</td>
<td>10</td>
<td>134</td>
<td>45%</td>
<td>35</td>
<td>91</td>
</tr>
<tr>
<td>Florida</td>
<td>16</td>
<td>4</td>
<td>140</td>
<td>65%</td>
<td>32</td>
<td>92</td>
</tr>
<tr>
<td>Georgia</td>
<td>8.2</td>
<td>4</td>
<td>97</td>
<td>72%</td>
<td>44</td>
<td>75</td>
</tr>
<tr>
<td>Illinois</td>
<td>12.4</td>
<td>8</td>
<td>159</td>
<td>71%</td>
<td>95</td>
<td>43</td>
</tr>
<tr>
<td>Michigan</td>
<td>9.9</td>
<td>4</td>
<td>161</td>
<td>71%</td>
<td>59</td>
<td>71</td>
</tr>
<tr>
<td>New Jersey</td>
<td>8.4</td>
<td>3</td>
<td>136</td>
<td>49%</td>
<td>48</td>
<td>66</td>
</tr>
<tr>
<td>New York</td>
<td>19</td>
<td>13</td>
<td>151</td>
<td>73%</td>
<td>98</td>
<td>49</td>
</tr>
<tr>
<td>Ohio</td>
<td>11.4</td>
<td>7</td>
<td>136</td>
<td>85%</td>
<td>81</td>
<td>52</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>12.3</td>
<td>6</td>
<td>190</td>
<td>77%</td>
<td>113</td>
<td>44</td>
</tr>
<tr>
<td>Texas</td>
<td>20.9</td>
<td>8</td>
<td>163</td>
<td>88%</td>
<td>59</td>
<td>58</td>
</tr>
</tbody>
</table>

* Additional comparative data is available in a more complex chart included in the appendix materials.

** Allopathic graduate data is for the 2000-01 academic year; Osteopathic graduate data is for the 1999-00 academic year.

*** Bachelor’s degrees include bachelor’s degrees awarded by public and independent universities, health science centers, and proprietary institutions.


Enlarged version of this chart found in Appendix 79.
1. Among the 10 most populous states in 2000, Texas ranked near the middle in the number of baccalaureate degrees awarded per medical school slot.


*Enlarged version of this chart found in Appendix 81.*
2. Eighty-eight percent of Texas residents beginning medical school (in 2001) remained in the state – the highest percentage among the 10 most populous states.


Enlarged version of this chart found in Appendix 82.
3. Texas’ average medical school size in 2001 ranked ninth highest among the 10 most populous states.

**Average Medical School Entering Class Size (2001)**

<table>
<thead>
<tr>
<th>Ten Most Populous States</th>
<th>Average Entering Class Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>134</td>
</tr>
<tr>
<td>Florida</td>
<td>140</td>
</tr>
<tr>
<td>Georgia</td>
<td>97</td>
</tr>
<tr>
<td>Illinois</td>
<td>159</td>
</tr>
<tr>
<td>Michigan</td>
<td>161</td>
</tr>
<tr>
<td>New Jersey</td>
<td>138</td>
</tr>
<tr>
<td>New York</td>
<td>161</td>
</tr>
<tr>
<td>Ohio</td>
<td>136</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>190</td>
</tr>
<tr>
<td>Texas</td>
<td>163</td>
</tr>
</tbody>
</table>


*Enlarged version of this chart found in Appendix 83.*
4. Texas ranked near the middle (in 2000) of the 10 most populous states in the number of medical school graduates per million people.

Sources: 1) Allopathic: American Association of Medical Colleges; 2) Osteopathic: American Association of Colleges of Osteopathic Medicine

*Allopathic data is for 2000-01 academic year; Osteopathic data is for 1999-00 academic year.

Enlarged version of this chart found in Appendix 84.
C. Variances by region in Texas

Texans from Upper East Texas, Southeast Texas, South Texas-South (Lower Rio Grande Valley), and Upper Rio Grande Valley regions are under-represented in Texas medical schools.

Comparison of Regional Population, Students from Region Earning Baccalaureate Degrees, and Students from Region* Enrolled in a Texas Medical School (2000)

Sources: 1) Population: U.S. Census Bureau, 2000; 2) Baccalaureate degrees: Texas Higher Education Coordinating Board; Independent Colleges and Universities of Texas, Inc.; 3) Enrollment: THECB

*Self-reported by students; reliability questionable
IV. “Services” and “Opportunities” Findings

A. “Services” Issues

1. Texas’ population is increasing rapidly, with particular growth in those segments of the population generally needing higher levels of care – the young and the elderly.

2. Texas now has fewer physicians per 100,000 population than the national average, fewer than the 10 most populous states’ average, and is at the low end of the U. S. Department of Health & Human Services recommended ratio of physicians per population. Texas’ population is increasing; if the number of physicians does not increase, those ratios will become increasingly unfavorable.

3. Texas educates some of its physicians, attracts others from other states, and still others from other countries. Those sources will continue to provide the state’s physicians. The state is a “net importer” of physicians.

4. Texas physicians are not distributed evenly throughout the population. Significant regional imbalances exist and are likely to persist.

5. There are many areas of low population, served by few physicians. In addition, there are two large regions of high population that are served by significantly fewer than the statewide average number of physicians: the Upper Rio Grande region and the South Texas-South region (Lower Rio Grande Valley).

6. Physician practice location is influenced by many personal and professional factors, and it is difficult to determine the relative importance of those factors. Some of those factors include place of birth/upbringing, place of college attendance, location of medical school, location of residency training, area of medicine selected (primary care, medical subspecialty, etc.), characteristics of practice (long or longer hours, potential income, availability of other physicians, differential malpractice insurance rates, cultural or other amenities available, etc.).

7. It is reasonable to assume (and some anecdotal evidence supports) that the location of a medical school exerts some influence on the eventual practice locations of its graduates, but it is not possible to separate that influence from other influences and quantify it with any degree of accuracy.
8. It does appear, however, that the location of residency training positively influences practice location, particularly in primary care disciplines.

B. “Opportunities” Issues

1. The state’s higher education plan – *Closing the Gaps* – calls for major increases in the numbers of students participating in and succeeding in higher education by 2015. One anticipated aspect of that “success” is a significant increase in the number of students attaining baccalaureate degrees.

2. As compared to the 10 most populous states, Texas now offers its baccalaureate graduates – on a statewide level – *about an average level of opportunity* to attend an in-state medical school.

3. However,
   - *IF* Texas produces additional baccalaureate graduates *and* the proportion of baccalaureate graduates seeking admission to (and qualified for entry into) the state’s medical schools remains the same,
   - *and* the state wishes to continue to provide at least the same chance of entry into a Texas medical school that it now provides,
   - *THEN* the state must increase the number of openings available in its medical schools. The state could increase the class size of existing schools, increase the number of schools, or pursue some combination of both approaches.

V. Summary Findings and Recommendations

A. Texas now has fewer physicians per 100,000 population than the national average, fewer than the 10 most populous states’ average, and is at the low end of the U. S. Department of Health & Human Services recommended ratio of physicians per population. Texas’ population is increasing; if the number of physicians does not increase, those ratios will become increasingly unfavorable.

B. Texas – like many other states – also has physician maldistribution problems that continue to resist solution.

C. Before creating new medical schools, expanding existing schools, or starting new extension initiatives, the Legislature should ensure that existing schools and regional academic health centers have funding sufficient to support their missions.
D. An increase in the number of residency training opportunities in the state would probably yield additional numbers of physicians choosing to practice in Texas – whether they attended medical school in the state or elsewhere. The Legislature should consider efforts focused on increasing residency positions to the extent possible and consistent with the provision of high-quality residency training.

E. To encourage physicians to practice in poorly served areas, the Legislature should consider additional funding to repay educational loans for physicians practicing in those areas.

F. The Legislature should examine, and, to the extent possible, take steps to address issues that adversely affect physicians’ decisions to remain in practice.

G. Unless patterns of medical services delivery change markedly, an increasing population is likely to need additional medical services, provided by an increasing number of physicians. Therefore, over time, an additional number of physicians will be needed. To meet that need, while balancing important issues of opportunity, cost effectiveness, economic development, and other factors, the state should over time increase its in-state production of physicians by: a) increasing the class sizes at its smaller existing medical schools (Texas Tech University Health Sciences Center, Texas A&M University System Health Science Center, and the University of North Texas Health Science Center at Fort Worth) and b) carefully considering the creation of an additional school or schools.

H. The availability of physicians in rural and urban underserved areas and the under-representation of Hispanics and African-Americans are critical issues for Texas. The Coordinating Board will continue to examine these issues and forward additional findings and recommendations to the Legislature.

I. If additional schools are created, they should be located where: a) areas of high population are served by significantly fewer than the state average number of physicians; b) the school location(s) could potentially address issues of geographic access, opportunity to attend medical school, and physician workforce diversity; and c) the state could build on significant prior investments that it and other entities have made for the provision of medical education and services.

J. Two areas of the state now meet each of those criteria: the Upper Rio Grande region and the South Texas-South region (Lower Rio Grande
Valley). Appendix A-88 provides information on those two areas in regard to the criteria in I, above.

K. Decisions about if, when, and where to create additional medical schools are, of course, legislative responsibilities that are carried out in the broad context of all of the state's needs, financial capabilities, and priorities. Nevertheless, because it takes considerable time to either develop or expand medical education, the Texas Legislature should give early attention to the issue.

L. If the state does create a new medical school or schools, it should give careful attention to ensure that a strong, diverse resource base is available for support.
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