Feasibility Study

For Any Institution of Higher Education to Provide Clinical Education to Support A Doctor of Medicine Degree Program at Prairie View A&M University

Pursuant to Texas Education Code, Section 87.107

Texas Higher Education Coordinating Board
October 2002

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

Overview

The Texas Education Code Section 87.107 (House Bill 42, 77th Texas Legislature) directs the Texas Higher Education Coordinating Board (Board), with the assistance of the Texas A&M University System Board of Regents (Board of Regents), “to conduct a study to evaluate the feasibility of an affiliation or coordinating agreement between the Board of Regents and any institution of higher education to provide the clinical education necessary to support a doctor of medicine degree program at Prairie View A&M University.” The Legislature directed the Board to complete the study on or before December 31, 2002. See Appendix A for the full text of the legislation. The results of the study are summarized in this report.

The Board has interpreted this directive to mean that the scope of the report would focus on determining the feasibility (resources needed, etc.) of making such an agreement workable and in identifying a potential partner(s) for Prairie View A&M University (PVAMU) in an educational model referred to here as a "2 + 2" program. In a "2 + 2" program, PVAMU would provide the first two years of medical instruction and another institution of higher education would provide the final two years of undergraduate medical instruction.

Study Content

The report is organized in sections that answer four principal questions:

1) What determines feasibility? (accreditation issues, resources, etc.)
2) What resources would be required to support a "2 + 2" program as specified in House Bill 42?
3) What alternatives to the "2 + 2" program as specified in House Bill 42 could be considered that would establish a medical education program at PVAMU?
4) What other new or existing state initiatives could address some of the goals of House Bill 42?

To address these questions, the Board assembled and reviewed a variety of data on medical education, toured existing institutional and medical facilities, interviewed academic administrators and national accrediting authorities, and studied the structures of medical schools, including Morehouse College of Medicine in Atlanta, Georgia, which was founded for the purpose of educating minority physicians to practice in medically-underserved areas.

The Board and its staff held six public meetings. The first meeting, with officials of the national accrediting body, the Liaison Committee on Medical Education (LCME), focused on the requirements for accrediting a new medical school. The second meeting was held at Prairie View A&M University to hear public comment on a draft of the report.
The third meeting was held by a subcommittee of the Board to review and discuss the report’s findings and recommendations. The full Board then considered the report at its quarterly meeting in July 2002, at which time it directed staff to investigate alternatives to a four-year medical school at PVAMU. At the fifth meeting, the same subcommittee of the Board reviewed and discussed the report’s expanded findings and recommendations. Lastly, the Board considered and approved the report at its quarterly meeting in October 2002. Appendix B summarizes Board and staff activities in completing this report.

Study Findings

The Board finds that:

*Under Section I of the report on the feasibility of a partnership with PVAMU:*

1) To practice medicine, a physician who is trained in the United States or Canada must graduate from an accredited medical school. Consequently, a new medical school, created at PVAMU or any other institution, would have to obtain national accreditation by the Liaison Committee on Medical Education. Accreditation requirements are complex and rigorous. An institution must provide significant resource commitments to medical instruction, clinical training, medical practice, and related biomedical research, and demonstrate financial support from diverse sources. It would be difficult and costly for any general academic institution that lacks expertise and experience in medical education to establish a medical school.

*Under Section II of the report on resources required of PVAMU and a partner to support a “2 + 2” program as specified in House Bill 42:*

2) Developing a medical school at PVAMU, with PVAMU as the accredited, degree-granting institution (referred to in the report as the “Statutory Model”), would be both costly and difficult to implement without the direct assistance and experience of an existing medical school or other major health education provider. That would be the case even if the clinical education was provided by an affiliate partner as proposed in House Bill 42. A review of PVAMU’s existing resources shows that the university would likely require a new medical education building, more than 25 new basic medical science faculty members, and significant additional administrative support to provide the first two years of medical education on the Prairie View campus. PVAMU would also require significant time and commitment of resources before it could oversee the instruction provided by a clinical partner (which it would be required to do if it were the accredited, degree-granting entity). Appendix C includes PVAMU's Institutional Profile, Mission Statement and Table of Programs. Estimated ten-year costs for that model total $230.6 million.

3) Texas A&M University System Health Science Center (TAMUSHSC) would be the best partner because: 1) it is within the same university system, thus simplifying governance and administrative issues; 2) it has the potential, with additional support, to expand its class size beyond the 64 new students it currently enrolls each year; and 3) it is located approximately 51 miles from Prairie View.
Appendix D includes TAMUSHSC's Institutional Profile, Mission Statement and Table of Programs. This collaborative medical program initiative with PVAMU should not preclude additional efforts by TAMUSHSC to address medical education needs in other parts of the state, or to enhance programs on its own campus.

4) In summer 2002, TAMUSHSC showed interest in this collaborative effort.

5) To enhance the stated mission of the medical education program at PVAMU, TAMUSHSC would develop a special clinical track in urban and rural medicine, with particular emphasis on practicing in medically underserved areas.

6) If current TAMUSHSC affiliates (Scott & White Memorial Hospital and Clinics) reach capacity for training medical students, TAMUSHSC could consider UTHC-Tyler as an alternative site for the clinical component of the medical education program. Their hospital has had some experience in training students from medical schools, and is located in a region of the state with a number of potential clinical training sites in rural and urban settings.

*Under Section III of the report on an alternative to the “2 + 2” program as specified in House Bill 42:*

7) If the State were to establish a medical degree program at PVAMU, a partnership with an existing, accredited medical school (with that school awarding the degree) would be more cost effective for the State, would lead to the quicker development of a medical program at PVAMU, and would be more likely to ensure a smooth and successful transition toward eventual national accreditation of a PVAMU medical school. That approach is referred to in the report as the “Alternate Model.” Estimated ten-year costs for that model total $137.4 million.

8) Under the “Alternate Model,”

- PVAMU would partner with TAMUSHSC in developing a medical education program, based on a "2 + 2" program model.

- The stated mission of the new medical program would be to train students in caring for medically underserved populations in rural and urban areas of Texas.

- The “2 + 2” program would be implemented along a ten-year development plan to prepare students for admission to medical school and ultimately lead them to a doctor of medicine degree. Graduates from the TAMUSHSC/PVAMU program would receive their degree from TAMUSHSC “with collaboration and support by Prairie View A&M University.” The institutions would jointly set periodic objectives and evaluate progress toward meeting those goals. A proposed timeline begins on page 25.

- Initially, TAMUSHSC would work with PVAMU to strengthen that institution’s biomedical science capabilities. TAMUSHSC would also develop a
Guaranteed Admission Program for selected PVAMU students seeking entry into the TAMUSHSC medical school.

- Following those steps, TAMUSHSC would provide the first two years of medical education at a “branch campus” at Prairie View. The “branch campus” status would allow TAMUSHSC to extend its existing LCME accreditation and exercise responsibility for meeting the rigorous national accreditation standards for a branch campus of a medical school. As the program matures, PVAMU would assume additional responsibility for the first two years of the curriculum. TAMUSHSC, through its contractual agreement with Scott & White Memorial Hospital and Clinics (Scott & White), or other entity, would provide the last two years of the medical students’ medical education (clinical component).

- TAMUSHSC and PVAMU would prepare a strategic plan that both institutions could use to evaluate the success and progress of the collaborative medical program. The plan would identify benchmarks that could be used to gauge when the institutions would advance to the next stage in the plan.

**Summary of costs associated with the two models presented in Sections II and III:**

9) A comparison of 10-year costs for the two models is as follows:

<table>
<thead>
<tr>
<th>Costs by Broad Category</th>
<th>“Statutory Model”</th>
<th>“Alternate Model”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>$ 123,909,378</td>
<td>$ 64,463,450</td>
</tr>
<tr>
<td>Facilities &amp; Equipment</td>
<td>$ 67,027,599</td>
<td>$ 43,973,048</td>
</tr>
<tr>
<td>Faculty</td>
<td>$ 39,628,755</td>
<td>$ 28,937,500</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$ 230,565,732</td>
<td>$137,373,998</td>
</tr>
</tbody>
</table>

Note: A different approach involving PVAMU in a plan to increase the number of underrepresented students in medical school is described in Section IV of the report and summarized in Findings 11-14. Ten-year costs for that effort would be $17.7 million. The plan could be expanded to involve other institutions.

**Under Section IV of the report on other new or existing state initiatives that could address some of the goals of House Bill 42:**

10) If one of the unstated goals of House Bill 42 is to increase the number of underrepresented students (Hispanics, Blacks, and economically disadvantaged) in medical school (and thereby increase the number of physicians from underrepresented groups), the State could develop other strategies that would be less costly than establishing a new medical school at PVAMU and could be equally effective in meeting that goal.

11) Results from a recent Board survey show that each of the state’s medical schools offers at least one pre-medicine enrichment program for college students and at least one summer study program for middle school/high school students. The majority of these programs target areas or schools in the state with large Hispanic
populations. Descriptions of these programs indicate that in some cases more than one medical school is offering programs to the same student population.

12) While the survey results attest to the medical schools' commitment to recruiting underrepresented students, research shows that the state should concentrate more of its recruitment efforts at lower grade levels if it hopes to increase the pool of underrepresented applicants to medical school. As part of its efforts, the state should support new and existing initiatives that create partnerships and linkages among K-16 educational institutions. Those linkages will provide a continuum of encouragement and preparatory experiences for promising students.

13) The State could establish a statewide recruitment plan to meet two major objectives: 1) expand and enhance K-12 medical preparatory programs into a statewide network of summer study programs; and 2) develop pre-medicine programs at public higher education institutions that enroll a larger number of underrepresented students. The plan also would identify “best practices” for existing programs and would attempt to draw geographic boundaries and create joint programs where there are now duplicate and overlapping programs.

14) As an institution with a large Black enrollment, PVAMU could have a significant role in a statewide recruitment plan. It could host a summer study program for middle-school and high school students and, with the coordinated effort of medical schools in the region, expand and enhance its pre-medicine/guaranteed admission programs. Estimated ten-year costs for the summer study program and the enhanced pre-medicine program at PVAMU total $17.7 million.

Acknowledgements

The Board is grateful to the many contributors to this report and to those individuals who commented on its content in writing and at public meetings.

The Board gratefully acknowledges the expertise and assistance of Frank Simon, MD, and Barbara Barzansky, PhD, (from the Liaison Committee on Medical Education); George Brown, PhD, from Prairie View A&M University; and Kelly Hester, PhD, and Barry Nelson from Texas A&M University System Health Science Center.
Section I

Introduction and Context

The Texas Education Code 87.107 (House Bill 42, 77th Texas Legislature) directs the Texas Higher Education Coordinating Board (Board), with the assistance of the Texas A&M University System Board of Regents (Board of Regents), “to conduct a study to evaluate the feasibility of an affiliation or coordinating agreement between the Board of Regents and any institution of higher education to provide the clinical education necessary to support a doctor of medicine degree program at Prairie View A&M University.”

The Board has interpreted this directive to mean that the scope of the report would focus on determining the feasibility (resources needed, process of accreditation, etc.) of making an agreement workable and in identifying a potential partner(s) for Prairie View A&M University (PVAMU) in an educational model called a "2 + 2" program.

In a "2 + 2" program, PVAMU would provide the first two years of medical instruction and another institution of higher education would provide the final two years of medical instruction, which focus on clinical education. The Board interpreted the statutory reference to “doctor of medicine” literally. Physicians can be trained at "allopathic" schools and become doctors of medicine (M.D.’s) or at "osteopathic" medical schools and become doctors of osteopathy (D.O.’s). While there are no longer major differences between the educational programs leading to the two types of degrees, and graduates from each type of program take similar examinations to obtain licensure to practice medicine, the Board determined that the statutory reference to “doctors of medicine” should focus the review on issues affecting the creation of allopathic schools. In any case, the points raised in the report would apply (with minor modifications) to osteopathic programs, as well. Appendix E provides a brief description of a physician’s medical education. Appendix F provides a map indicating the locations of Texas' seven allopathic schools and its one osteopathic school.

In determining the “feasibility” of a potential partnership, the Board also made four other assumptions.

1) A medical school at PVAMU could help to improve the recruitment and enrollment of underrepresented students (Blacks, Hispanics, and economically disadvantaged).

An historical review of enrollment data for the state’s medical schools shows that only small, incremental progress has been made in enrolling minority students. The following table compares the ethnic/racial composition of the state’s medical school enrollment for fall 1991 and fall 2001:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>2.5%</td>
<td>4.5%</td>
<td>+ 2.0 %</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9.3%</td>
<td>12.3%</td>
<td>+ 3.0 %</td>
</tr>
<tr>
<td>White</td>
<td>71.9%</td>
<td>59.9%</td>
<td>- 12.0 %</td>
</tr>
<tr>
<td>Asian/Pacific I.</td>
<td>15.5%</td>
<td>21.7%</td>
<td>+ 6.2 %</td>
</tr>
<tr>
<td>Other / Unknown</td>
<td>0.8%</td>
<td>1.6%</td>
<td>+ 0.8 %</td>
</tr>
</tbody>
</table>

Source: Institutional data reported to the Texas Higher Education Coordinating Board.
Data show a slight increase in the percentage of Blacks and Hispanics, a significant increase in Asian/Pacific Island students, and a significant decrease in the number of White students. Appendices G, H, and I provide more participation and success trends for medical students by ethnicity/racial category. These statistics have implications for Texas' physician workforce, and, perhaps, for the quality of care provided to the state’s minority population.

The Texas Medical Association reported that in 2000 the racial/ethnic composition of the physician workforce was vastly different from Texas as a whole. While 31 percent of the Texas population was Hispanic and 11 percent was Black, only 10 percent of the current physician workforce was Hispanic and 3 percent was Black. (Texas Medical Association, *Physician Workforce Study: Report of the TMA Committee on Physician Distribution and Health Care Access and Council on Medical Education*).

The differences were further demonstrated by Texas' population-to-physician ratios as they apply to principal ethnic groups. The ratio of the Hispanic population to Hispanic physicians was 1,950:1. The Black population to Black physician ratio was 2,337:1. The ratio for the White population to White physician ratio was 450:1 and the Asian/Pacific Islander population to Asian/Pacific Islander physician ratio was 131:1. (Data from the 2000 U.S. *Census of Population* show that Hispanics make up 32.0 percent of the Texas population, Blacks make up 11.5 percent, Asian/Pacific Islanders make up 2.8 percent, and Whites account for 52.4 percent). Calculations of ratios are made by Board staff.

A March 2002 study by the National Academy of Sciences' (NAS) Institute of Medicine linked demographic inequities in the physician workforce to health care quality. The study found:

*Racial and ethnic minorities tend to receive a lower quality of health care than non-minorities when access-related factors, such as patients’ insurance status and income, are controlled. The source of these disparities are complex, rooted in historic and contemporary inequities and involve many participants at several levels … Consistent with the charge, the study committee focused part of its analysis on the clinical encounter itself and found evidence that stereotyping, biases, and uncertainty on the part of health care providers can all contribute to unequal treatment.*

Note: To improve the delivery of health care for racial and ethnic minorities, the NAS study committee recommended increasing the proportion of underrepresented minorities among health professionals and integrating cross-cultural curricula into the training of students and of practitioners through continuing education.

2) The focus of the new school would be to train students for service as primary care physicians (specialists in family medicine, general obstetrics/gynecology, general internal medicine and general pediatrics) in the state’s medically underserved inner city and rural communities.

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Sponsors of House Bill 42 and other similar legislation to establish a medical school at Prairie View indicated that the school would focus on meeting the health care needs of residents living in rural and inner city medically underserved areas.

If a medical school at Prairie View were to produce a high number of minority graduates, some evidence suggests that the school could ease distribution problems relating to access to health care. Recent studies have found that Hispanic and Black physicians were more likely to establish practices in medically underserved areas and to provide medical care to minority patients. Research conducted in California has shown that Black physicians were more likely to practice in underserved areas with a high percentage of Blacks and were found to care for almost six times as many Black patients as other physicians. The California study also found that Black physicians cared for more Medicaid patients than other physicians. Similarly, a national study of 15,081 individuals found that minority patients were more than four times more likely to receive care from nonwhite physicians than were non-Hispanic white patients. This study also found that low-income, Medicaid, and uninsured patients were more likely to receive care from nonwhite physicians than were more affluent patients.

In contrast, workforce statistics collected by the Texas Medical Association show that White male physicians, rather than minority physicians, are more likely to practice in rural areas.

3) Although House Bill 42 states that the clinical partner could be “any institution of higher education,” for both practical and accreditation purposes, only an existing, accredited medical school should be considered as a potential institutional partner.

The April 2002 meeting with staff members of the Liaison Committee on Medical Education (LCME), the national accrediting body for medical schools, confirmed that establishing a new school requires extensive planning and experience in health education issues, finance, and medical practice. (It has been more than 25 years since the establishment and accreditation of a new allopathic medical school in the United States.)

Because of accrediting body expectations and other reasons presented in this report, the medical education model set forth in statute (herein termed the “Statutory Model,” stemming from House Bill 42) would be costly and time-consuming to implement, for, under that model, PVAMU – an institution inexperienced in providing medical education – would award the doctor of medicine degree. Nevertheless, to fulfill the statutory directive, a feasibility study of the Statutory Model is presented.

In addition, the Board has developed an alternate approach (herein termed “Alternate Model”) that would be more cost efficient, more readily implemented, and yet offer some of the benefits understood to be the goals of the statute.

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While many arrangements to provide medical education might be acceptable to the LCME, the most promising path toward eventual independent accreditation for a PVAMU medical school would draw on the accreditation, degree granting authority, and oversight of an existing medical school.

4) **The affiliation between a medical school and PVAMU should not compromise other expansion plans for which the state’s medical schools have received prior approval.**

Texas medical schools continue to seek to develop health education opportunities for students and for the communities that they serve. For example, Texas Tech University Health Sciences Center is expanding its educational and research activities in El Paso to help attract new practitioners to the city and to relieve the public health problems which affect El Paso and its neighbor, Juarez, Mexico. The University of Texas Health Science Center at San Antonio and The University of Texas Health Science Center at Houston also are expanding their activities in the Lower Rio Grande Valley for similar reasons.

**What Determines Feasibility?**

The Board identified four major criteria for determining the feasibility of a partnership between PVAMU and an existing medical school. Other criteria certainly apply, such as the ability of the State to support the partnership and meet other needs.

1) **A partnership between PVAMU and a medical school must meet accreditation standards of the Liaison Committee on Medical Education (LCME).**

To obtain a state license to practice medicine, a physician who is trained in the United States or Canada must graduate from an "accredited" medical school. (Alternate pathways exist for foreign-trained physicians.) The LCME is the accrediting body for medical education leading to the doctor of medicine degree. Standards for medical schools are in all likelihood the most stringent and complex of all higher education accreditation standards. Appendix J presents the LCME accreditation standards, *Functions and Structure of a Medical School* (May 2002.)

2) **A partnership between PVAMU and an existing medical school should facilitate higher education and physician workforce goals of the state.**

*Closing the Gaps*, the state’s higher education plan, includes a goal to increase the participation rates across Texas by adding 500,000 more students by 2015. Only 5 percent of the Texas population was enrolled in higher education in recent years, compared to a national average of 5.4 percent. Reaching the goal will require increasing participation from every population group, but especially Hispanics and Blacks. Any partnership developed should support reaching those goals.

Note: Although the Texas Medical Association does not at this time support the creation of an additional medical school, TMA does support the medical schools’ efforts to recruit, enroll and retain underrepresented groups. TMA also supports the repayment of educational loans for students who complete training in Texas and practice in rural and underserved areas.
3) **The partnership between PVAMU and a medical school should be cost effective.**

While any effort to establish a new medical school would require extensive and long-term commitments of funding, the decision regarding the development and location of any new school should be made in the context of maximizing existing resources. By partnering with an existing medical school, PVAMU would benefit from the medical school's faculty expertise and experience, and from shared resources. Furthermore, any clinical partner should have experience in medical education and related research, as well as have existing and adequate resources on which to build or expand a clinical training program for third- and fourth-year medical students.

*Establishing a new school (at PVAMU or elsewhere) should be weighed against other less costly alternatives that may result in achieving at least some of the same benefits. Briefly, some of those alternatives are:*

- **Increasing the class size of existing medical schools.**

  The state’s public medical schools currently admit approximately 1,300 new students each year. The four schools in The University of Texas System enroll 200 students in their entering classes; Texas A&M University System Health Science Center, 64 students; Texas Tech University Health Sciences Center, 125 students (with plans to expand to 140 students by 2005); and the University of North Texas Health Science Center at Forth Worth, 115 students.

Medical school enrollments have grown at a slow rate, and many institutions are at capacity given current funding levels.

The bar graph shows that total enrollments have increased by only 6.1 percent from 1990 to 2000. The schools with the largest enrollment increases are those
with the smallest class sizes: TAMUHSC had a 40.8 percent increase; Texas Tech University Health Sciences Center, a 27.3 percent increase; and the University of North Texas Health Science Center at Fort Worth, a 15.1 percent increase.

State formula funding currently allocates approximately $56,000 per medical student for instruction and operating costs. The schools estimate that formula funding covers approximately 30 percent of the total cost of educating and training a medical student.

- Increasing the number of graduate medical education programs (also called residency training programs), or expanding residency positions at existing residency programs.
  Data show that where a medical school graduate completes his or her residency training is a more reliable predictor of where a physician will practice medicine than where he or she graduated from medical school. Texas’ public medical schools report that, two years after completing their residencies, from 43 to 100 percent of their residents are practicing in the state. In contrast, the schools report that 24 to 38 percent of graduates are practicing primary care in the state seven to ten years after completing medical school. Therefore, increasing the number of residency programs or increasing the number of residency positions within existing programs may produce more physicians for the state than establishing a new medical school. Expansion of residency training positions, however, is limited by the amount of Medicare support a sponsoring hospital is likely to attract. Recent federal policies have been put in place to limit the number of residents that hospitals may claim in their reporting and funding structure under the Medicare system.

- Recruiting physicians from other states.
  Data from the Texas Board of Medical Examiners show that the state has been a net importer of physicians. The State could enhance those statistics by creating a fund from which health care providers could draw to recruit physicians who met certain criteria (i.e., practice specialty, geographic preference).

- Increasing the funding available in programs that recruit physicians to medically underserved areas.
  The State currently has a loan forgiveness program that helps health care providers recruit and retain physicians to practice in medically underserved areas. The Physician Education Loan Repayment Program (PELRP) repays eligible student loans of physicians who meet the requirements, which include a two-year commitment to provide primary health care services in a priority health professional shortage area (HPSA). From 1987 to May 2002, the Board has made loan repayments of approximately $13.8 million in state funds for 755 physicians, and approximately $4.25 million in federal funds (matching dollars) for 259 physicians.

  Demand for these funds has far surpassed the amounts that have been available. As of May 2002, 75 physicians remain on the waiting list for PELRP, with many of them having applied more than a year ago.
Additional programs have been implemented over the years seeking to affect physician distribution in Texas. These include a rural and public health rotation opportunity for family practice residents to experience life in a rural community or actively participate in public health experiences (Rural and Public Health Rotations within the Family Practice Residency Programs, THECB). A review of these experiences in 1997 found that physicians who had completed a rural rotation experience were likely to practice in remote and rural areas of the state. Participation in the rural and public health rotations remain constant at 85 family physicians annually.

4) The partnership between PVAMU and an existing medical school should be agreeable to both parties.

The medical school partner should have an active, supportive interest in the stated mission of the new school.

Accreditation Issues for Medical Education

LCME standards were recently consolidated and revised under five broad categories of assessment: Institutional Setting; Educational Program for the M.D. Degree; Medical Students; Faculty; and Educational Resources. Because the LCME wants to continue to allow schools to be responsive to standards, yet creative in their development of medical education programs, the standards are mostly descriptive rather than prescriptive. For example, regarding the number and qualifications and functions of the faculty, the standards state: “The recruitment and development of a medical school’s faculty should take into account its mission, the diversity of its student body, and the population that it serves. There must be a sufficient number of faculty members in the subjects basic to medicine and in the clinical disciplines to meet the needs of the educational program and the other missions of the medical school.” This general language allows the LCME to evaluate each medical school on its own terms. Yet, despite the flexibility implied by this broad language, schools must implement and provide substantial resources to support the underlying principles of medical education. To satisfy LCME and to receive accreditation, high expectations must be met.

Specific Accreditation Issues for "2 + 2" Programs

Because of the recent development of "2 + 2" programs and other distributed models for medical education, LCME standards specifically address curriculum management issues regarding geographically separated programs. A portion of one of those standards reads:

The medical school’s chief academic officer must be responsible for the conduct and quality of the educational program and for assuring adequacy of faculty at all educational sites. The principal academic officer of each geographically remote site must be administratively responsible to the chief academic officer of the medical school conducting the education program. The faculty in each discipline at all sites must be functionally integrated by appropriate administrative mechanisms.
Other standards also apply. See Appendix J.

Note: Throughout the report, direct quotes from LCME Standards are in italics.

Existing "2 + 2" Programs in Texas

1) At Texas A&M University System Health Science Center (TAMUSHSC), the instruction of medical students takes place at the medical school and at a distant teaching hospital - two separate locations. TAMUSHSC teaches the first two years of medical education in College Station; Scott & White (in Temple), through a contractual agreement with TAMUSHSC, is the site for the last two years of clinical education. Clinical training is conducted primarily at Scott & White in Temple and at its clinical facilities located in a 14-county area of Central Texas. Although Scott & White has responsibility to provide the clinical education component, TAMUSHSC retains all administrative oversight and accreditation responsibilities for the entire four years of the medical education program. That arrangement fulfills an LCME requirement.

2) Texas Tech University Health Sciences Center (TTUHSC) was established by the Texas Legislature as a multi-campus institution. Medical students complete their first two years at TTUHSC’s main campus in Lubbock and then are distributed among four regional sites (Lubbock, Amarillo, El Paso, and Odessa) to complete their clinical education. In recent years, TTUHSC has received new legislative appropriations to expand the El Paso site. Similar to the arrangement at TAMUSHSC, degree granting authority and the principal responsibility for ensuring accreditation standards are held at the main campus (in Lubbock).

3) Until recently, The University of Texas Health Science Center at San Antonio medical school (UTHSC-SA) has followed the traditional model of medical education with all four years taught at an academic campus and at a neighboring teaching hospital (for clinical education). Beginning in summer 2002, 24 medical students from UTHSC-SA will begin their clinical education at a regional campus located in Harlingen. The Harlingen site is one of three components comprising the Lower Rio Grande Valley Regional Academic Health Center. As part of the development of this program to bring medical education opportunities to South Texas, UTHSC-SA completed a new 94,000 gross square foot medical education building in Harlingen in summer 2002. Another $30 million building is planned in Harlingen for research and continuing medical education activities. The Harlingen component is also expected to support increased clinical training of UTHSC-SA students and residents at various other sites in the Lower Rio Grande Valley.

Advantages and Disadvantages of "2 + 2" Programs

Initially developed in the 1970's, "2 + 2" programs are becoming more common as medical schools find it necessary to expand their available patient base to meet educational, research, financial, and service obligations. "2 + 2" programs can be flexible, provide diverse study opportunities, and, perhaps, be more cost effective than the traditional medical school program, which houses the entire program and all of its resources close to one another in an urban area. A "2 + 2" program allows the school to
contract with multiple teaching sites, some of them in smaller teaching facilities, allowing medical students to have educational experiences in a variety of clinical practice settings.

There are disadvantages to "2 + 2" programs. The use of less-populous teaching sites may require medical students to move more frequently (raising costs), or commute over greater distances to observe and study the wide varieties of patient illness and medical treatment. Administrators of these "2 + 2" programs must exert special care to avoid fragmented clinical experiences. Because the accredited medical school must provide administrative and curricular oversight at all geographically separate training sites, a "2 + 2" program may incur higher overhead costs. The balance of advantages and disadvantages should therefore be carefully examined as such programs are developed.

**Curricular Changes and Variations Within "2 + 2" Programs**

Medical schools continue to adjust their curricula and practices to meet changes in the profession, changes in treatment, and changes in health education financing. The proliferation of the distributed "2 + 2" program, beginning in the 1970s, is but one example of how medical schools have adapted to changes in health care, practice patterns, and teaching philosophies.

Medical education now introduces students to clinical activities as early as possible in their medical education. In the last ten years, medical schools have begun integrating clinical experiences into the first and second years of medical education, years previously dedicated exclusively to the basic science curriculum. This “1 + 3” program is reflected in the clinical curriculum model provided by Baylor College of Medicine. (Appendix K).

Medical schools also have become less reliant on a principal teaching hospital to provide the clinical training in the third and fourth years of medical school. Because of changes in medical practice, population changes, and insurance reimbursement, more of a physician’s practice is being conducted in community hospitals, physician offices, outpatient clinics, and long-term care facilities, rather than large hospitals. As a result, medical schools are emulating those trends in their clinical education curricula, and consequently, medical students are training at a greater number of sites across broader geographic areas.
Section II

What Resources Would Be Required to Support a “2 + 2” Program as Specified in House Bill 42 (“Statutory Model”)?

House Bill 42 reads:

*The Texas Higher Education Coordinating Board, with the assistance of the board of regents of The Texas A&M University System, may conduct a study to evaluate the feasibility of an affiliation or coordinating agreement between the board of regents and any institution of higher education to provide the clinical education necessary to support a doctor of medicine degree program at Prairie View A&M University.*

Assumptions

- Prairie View A&M University (PVAMU) would confer the Doctor of Medicine (M.D.) degree. PVAMU would therefore have to receive accreditation by the Liaison Committee on Medical Education (LCME).
- The PVAMU main campus in Prairie View would house the first two years of the medical program. The third and fourth years of the medical program would be offered in another location, geographically separated from the Prairie View campus. (Sufficient clinical facilities are not available in Prairie View.)
- Medical students would complete the final two years of coursework (the clinical component of medical education) at an affiliated clinical education site, similar to the arrangement between Texas A&M University System Health Science Center’s School of Medicine (College Station) and Scott & White Memorial Hospital and Clinics (Temple).
- A PVAMU medical school would have an entering class size of 32 students and would achieve a maximum enrollment of 128 students by year four of the program.
- Medical students would apply and receive admission only after a PVAMU medical school received accreditation by the LCME.
- The planning phase of a PVAMU medical school would take approximately four years, with new medical students enrolling in year five, after the institution has received initial LCME accreditation.

What Resources Would Be Required at PVAMU?

Note: Only the most resource-related LCME Standards are cited in the following materials and form the basis for cost analysis. Satisfaction of all LCME standards would undoubtedly lead to additional costs. Full text of the LCME Standards is included as Appendix J.
To estimate costs, the Board reviewed salary information available from the American Association of Medical Colleges, the Chronicle of Higher Education Almanac, and Texas public medical schools. Estimates of space needs and costs, operational expenses, and other costs were made after reviewing data from existing medical schools.

General Expectation

LCME standard: *The program of medical education leading to the M.D. degree must be conducted in an environment that fosters the intellectual challenge and spirit of inquiry appropriate to a community of scholars. Students should have the opportunity to participate in research and other scholarly activities of the faculty. All medical school faculty members should work closely together in teaching, research, and health care delivery.*

Administration

LCME standard: *The dean must be qualified by education and experience to provide leadership in medical education, scholarly activity, and care of patients.*

*The dean should have the assistance of such associate or assistant deans and staff as are necessary for administration of the medical school.*

*The system of academic advising for students must integrate the efforts of faculty members, course directors, and student affairs with the school’s counseling and tutorial services.*

*A medical school must provide students with effective financial aid and debt management counseling.*

Assessment: A dean, associate and assistant deans, and other staff would be required at the planning phase of the medical program development. The planning phase is estimated at a minimum of three years. The institution would begin in fiscal year 2004 to hire the planning committee. A dean, and other lead administrators, and planning staff would be hired.

Administrative and operating costs would represent approximately 45 percent of the program budget, excluding facility and equipment costs.

Success of the statutory model would be enhanced by significant financial aid for both undergraduate students and medical students, totaling $18.1 million over the ten-year period.
Facilities and Equipment

LCME standard: A medical school must have facilities, or be assured use of buildings and equipment appropriate to achieve its educational and other goals.

The medical school must have access to well-maintained library and information facilities, sufficient in size, breadth of holdings, and information technology to support its education and other missions.

Assessment: A new basic science medical school building, including auditorium space, small lecture halls, general classrooms, laboratory space, and additional library facilities would be required. Under best-case operations, the building would need to be completed prior to matriculation of medical students. The building could begin as early as Fiscal Year 2004, with completion of the building scheduled for later that year.

Est. 10-Yr costs: $67 million (Includes building costs and capital equipment).

Faculty

LCME standards: The recruitment and development of a medical school’s faculty should take into account its mission, the diversity of its student body, and the population that it serves.

There must be a sufficient number of faculty members in the subjects basic to medicine and in the clinical disciplines to meet the needs of the educational program and the other missions of the medical school.

Persons appointed to a faculty position must have demonstrated achievements commensurate with their academic rank. Members of the faculty must have the capability and continued commitment to be effective teachers.

Assessment: A minimum of three to five faculty members should be in place to develop and sustain each department. Although PVAMU has many faculty who teach in the basic science disciplines offered by a general academic institution, few (if any) of those faculty would be likely have the biomedical science background and training necessary to provide medical education. A minimum of three new faculty members would be required to start each department, with substantial increases needed over the first three years of the medical school’s operation. The 10-year estimated cost includes...
eight department heads, 65 faculty members at Prairie View, and eight tenured faculty at the clinical facility.

Est. 10-Yr costs: $39.6 million (Includes faculty salaries, one-time start-up allocations to new faculty and the contractual agreement with a clinical affiliate).

Curriculum

The first two years of medical school (whether a traditional or "2 + 2" program) must provide students with an in-depth understanding of the basic medical sciences.

LCME standard: *The curriculum must incorporate the fundamental principles of Medicine and its underlying scientific concepts; allow students to acquire skills of critical judgment based on evidence and experience; and develop students’ ability to use principles and skills wisely in solving problems of health and disease.*

It must include … anatomy, biochemistry, genetics, physiology, microbiology, and immunology, pathology, pharmacology and therapeutics, and preventative medicine.

Assessment: PVAMU would have to establish a minimum of eight basic medical science departments within the Medical School. The new medical school building would house these new departments and provide general classrooms, laboratories, and two large auditorium spaces in a technologically well-equipped environment (see above).

Initially eight basic science departments would be established: 1) Anatomy and Embryology, 2) Biochemistry, 3) Cellular Biology and Histology, 4) Pharmacology and Toxicology, 5) Genetics, 6) Pathology, 7) Physiology, and 8) Behavioral Science and Bioethics.

Est. 10-Yr costs: These costs are included within the other categories.

What Resources Would Be Required at the Affiliate Institution of Higher Education?

Implications of the Statutory Model

The Statutory Model requires some explanation and interpretation at this point. If PVAMU were to award the medical degree, it would have to gain LCME accreditation and oversee all aspects of the degree program, not just the pre-clinical instruction (first two years of medical education) delivered on its own campus. Similar to what TAMUSHSC has done, it could establish a contractual relationship (affiliation) with an entity such as Scott & White (not itself an “institution of higher education”), with that entity providing the
patient base, facilities, and physicians/faculty sufficient to provide training for PVAMU medical students. Because of the difficulties cited earlier in this report, that approach would be costly, less efficient, and slower to implement.

PVAMU could establish an affiliation with an existing medical school, having that school provide the clinical training experiences necessary for medical education. Nevertheless, if PVAMU were to award the degree, it would be required to obtain LCME accreditation and exercise full oversight of the program.

The statute charges the Texas A&M University System Board of Regents to play an active role in completing the study and, presumably, in accomplishing the goals of the legislation. For those reasons, and to move the analysis past some of the difficulties mentioned above, the Board has assumed that the TAMUSHSC medical school could serve as the affiliate “institution of higher education,” even though it would have to provide the necessary clinical education through its own affiliation with Scott & White. Such an arrangement would provide appropriate clinical resources, but, if PVAMU were to award the degree, the requirements of the LCME must be fully met by PVAMU. The same issues would arise if PVAMU were to contract with any partner (existing medical school, major hospital, etc.) for the provision of clinical education.

The balance of this section of the report will address a possible implementation of the Statutory Model, with PVAMU serving as the degree-granting, LCME-accredited institution, teaching the first two years of medical education on its own campus and affiliating with TAMUSHSC to provide clinical education through its contractual relationship with Scott & White in Temple. Proximity, system affiliation, and a strong track record in the area of clinical medical education make Scott & White desirable. The final part of this section will briefly examine alternate partners for the provision of clinical education as part of the Statutory Model.

Description of Clinical Education

The last two years of medical education usually consist of concentrated periods of time in patient settings, with students studying with physicians and interacting with patients in two to six week “clerkships.” Those clerkships are in areas of medical practice such as family medicine, internal medicine, pediatrics, obstetrics, surgery, psychiatry, and neurology. Appendix K sets forth how two medical schools present this patient-based curriculum in a two-year period.

LCME standards:  

Clinical teaching facilities must have, or be assured use of, appropriate resources for the clinical instruction of its medical students. A hospital or other clinical facility that serves as a major site for medical student education must have appropriate instructional facilities and information resources.

The curriculum should include clinical experiences in family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry, and surgery.
Clinical Science Departments

Numerous clinical science departments would be required: anesthesiology, emergency medicine, family medicine, neurology, obstetrics and gynecology, ophthalmology, pathology, pediatrics, psychiatry and health behavior, radiology, and surgery. Smaller units (such as dermatology) exist within each department area. Administrative chairs for each of the departments would be required.

For the purposes of this report, the resources available at Scott & White are used as a model of the clinical resources that would be required, and the costs for providing appropriate clinical instruction are based on the amounts TAMUSHSC pays Scott & White to provide clinical education for TAMUSHSC medical students. That amount is $32,000 per medical student per year. In addition, PVAMU would have to have members of its staff directly engaged in the oversight of clinical operations.

Ten-year costs related to the provision of clinical education would be $7,105,000 for payments to the affiliate clinical provider and $7,624,246 for expenses at PVAMU. Total 10-year cost: - $14,729,246. These costs are included within the other categories, beginning on page 16.

Which Institutions of Higher Education Would Have Sufficient Existing or Potential Resources to Be the Affiliate Institution?

The Board investigated potential partnerships that would be cost effective and would not compromise other expansion plans of the affiliate. As a result of that review, the Board identified two higher education institutions for possible consideration:

Institution 1: Texas A&M University System Health Science Center (TAMUSHSC)

Description: The medical school at TAMUSHSC was established in 1979. It is the newest medical school in the state and currently has the smallest class size (65 students). The school divides its students’ medical education between two primary locations. The first two years are taught at College Station. Through a contractual agreement with TAMUSHSC, physicians at Scott & White in Temple provide the last two years of the students’ clinical education. TAMUSHSC also has contractual affiliations with other Central Texas health care providers, including the Central Texas Veterans Health Care System, Darnall Army Community Hospital in Killeen, and Driscoll Children’s Hospital in Corpus Christi.

Administration: TAMUSHSC estimates that approximately 25 faculty and 13 non-faculty employees support the clinical instruction of its students in space provided by the affiliates. It estimates that doubling the medical school’s class size would not substantially increase the size of the administrative staff.

Faculty: TAMUSHSC estimates that 500 of Scott & White’s physicians currently train the school’s 130 medical students and supervise another 250 residents. Approximately 475 of those physicians (95 percent) devote at least 20 percent of their time to teaching. Instruction is organized
among 15 academic departments and nine clinical departments. TAMUSHSC estimates that doubling the medical school’s class size would increase the physician’s time with students by approximately 20 percent.

**Facilities:**
Students are trained at Scott & White’s 380-bed in-patient facility in Temple and at 19 regional clinics within a 14-county area. TAMUSHSC and Scott & White jointly financed a new research building that contains classrooms, laboratories and offices. The two institutions also are financing a 65,000 gross square foot educational building that is expected to be completed in late 2002. It will contain library space, a large auditorium and other classroom space.

**Curriculum:**
TAMUSHSC provides students with a standard clinical curriculum in primary care at sites in Central Texas. It also offers a pediatrics rotation at Driscoll Children’s Hospital in Corpus Christi. Faculty members are also considering the development of a rural track for medical students that would capitalize on the System’s existing land - grant programs.

**Service Population:**
In 2000, Scott & White admitted 38,000 patients to its hospital in Temple and reported seeing 1.2 million patients at its clinics and ambulatory facilities. Scott & White physicians report a diverse patient payor mix with approximately 45 percent of the institution’s patients (180,000 Central Texas residents) enrolled in Scott & White’s health plan, another 35 percent in Medicare, and 10 percent in Medicaid. The remaining 10 percent were charity care patients.

Scott & White reports that approximately 62 to 70 percent of its patients (depending on type of services) are White, 10 percent are Hispanic and 9 percent are Black. The remaining 10 percent are unidentified or “other.”

**Advantages of a Partnership with PVAMU**

- TAMUSHSC is in the same university system as PVAMU.
- Prairie View is located 51 miles from College Station (as compared to 47 from Houston) and 123 miles from Temple.
- New research and educational facilities, jointly financed by TAMUSHSC and Scott & White, could accommodate a larger medical school class size.
- TAMUSHSC administrators estimate that doubling the current class size of 65-70 students would increase the teaching load of Scott & White’s existing physicians by approximately 20 percent and would require few, if any, new administrative resources.

**Disadvantages of a Partnership with PVAMU**

- The existing patient base in Central Texas may not offer students the appropriate diversity that would be consistent with the school’s mission.
Would TAMUSHSC be an appropriate partner for PVAMU?

Yes. For the most part, TAMUSHSC has established an educational infrastructure that can accommodate a larger class size and is consistent with the proposed mission of the medical education program at PVAMU.

A partnership with TAMUSHSC would maximize the use of existing resources within the same university system. To increase the students’ exposure to patients in the state’s medically underserved inner city and rural communities, TAMUSHSC would need to expand training opportunities in other areas of the state.

Institution 2: The University of Texas Health Center at Tyler (UTHC-Tyler)

Description: The UTHC-Tyler became a component of The University of Texas System in 1977. Originally established as a military hospital, UTHC-Tyler is now a primary treatment center for tuberculosis and other cardiopulmonary diseases in the state. It also has a regional focus of care and teaching in family medicine, occupational health, general pediatrics and general internal medicine. Several of the specialties such as obstetrics and much of subspecialty practices are referred to other hospitals in the Tyler area such as East Texas Hospital and Mother Frances Hospital. UTHC-Tyler trains approximately 24 medical residents each year in accredited family medicine and occupational health training programs. It also supports undergraduate medical education, and regional nursing and allied health degree programs. UTHC-Tyler faculty provide a family medicine rotation for two to three medical students from The University of Texas Southwestern Medical Center each month, and rotate in 40-50 students from the University of North Texas Health Science Center for training on pulmonary diseases.

Administration: UTHC-Tyler currently has an infrastructure in place to train approximately 24 medical residents per year. To offer clinical training to medical students, PVAMU would need additional administrative staff at the health center and at any affiliate that would serve as a site for other specialty and subspecialty training.

Faculty: UTHC-Tyler has approximately 70 clinical physicians/faculty members. Approximately seven to 10 of them devote more than 20 percent of their time to teaching residents. UTHC-Tyler would need additional faculty members at its sites and would require additional faculty at its affiliates in the Tyler area.

Facilities: UTHC-Tyler currently operates a 120-bed hospital and an adjacent out-patient clinic. It is planning to add two floors to the clinic and is currently building a fourth wing on its research building. UTHC-Tyler owns a small number of out-patient clinics in Tyler and is interested in purchasing others in neighboring communities.

To offer the third and fourth year of medical education, UTHC-Tyler would require a new educational building to house administrative
offices, expanded library, interactive classrooms, continuing education activities and new auditorium.

As potential affiliates to PVAMU and UTHC-Tyler, East Texas Medical Center has a 364-bed hospital and Mother Frances Hospital is a 300-bed facility.

Curriculum: UTHC-Tyler currently offers a limited number of educational opportunities for medical students and would be required to build an entire curriculum for the two-year program.

Service Population: In 2001, UTHC-Tyler reported approximately 30,000 inpatient days to its hospital and 136,000 visits to its outpatient facilities. UTHC-Tyler has a heavy charity care patient population as compared to other hospitals. Approximately 35 percent of its patients have private insurance, another 20 percent have Medicare, and 20 percent have Medicaid. The remaining 25 percent are charity care patients.

The ethnic and racial make-up of UTHC-Tyler’s patient population reflects that of the general population of Tyler and surrounding areas.

Advantages in a Partnership with PVAMU

• UTHC-Tyler has experience training medical students and residents.
• UTHC-Tyler operates a teaching hospital and out-patient facilities.
• UTHC-Tyler is located in a part of the state where no significant undergraduate medical training is being conducted.

Disadvantages in a Partnership with PVAMU

• UTHC-Tyler is a teaching hospital, but not an LCME-accredited medical school. While its past experience with medical education would make it a more favorable partner to PVAMU than an institution with no previous experience, it would still be required to develop a program that would meet accreditation standards.
• Because UTHC-Tyler could not offer a full range of specialty and subspecialty training, parts of the clinical training would be completed at other health facilities in Northeast Texas.
• Prairie View is located 189 miles from Tyler.
• The partnership would require new faculty, facilities and curricula.

Would UTHC-Tyler be an appropriate partner for PVAMU?

UTHC-Tyler would be a good affiliate if PVAMU wanted to later expand training sites. Otherwise, a partnership with UTHC-Tyler would not maximize the use of existing resources.

Summary Assessment

TAMUSHSC, with its affiliation with Scott & White, would be the preferred partner.
How Much Would the Statutory Model Cost?

A chart summarizing principal 10-year costs follows. Greater detail is provided in Appendix L.

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<th>Costs by Broad Category</th>
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<td>Total Costs</td>
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**Section III**

*What Alternative to the "2 + 2" Program as Specified in House Bill 42 Could Be Considered That Would Establish a Medical Education Program At PVAMU?*

**An Alternate Model**

- From a wide range of alternatives that could be considered, the Board has developed an alternative "2 + 2" program model that builds on the existing accreditation, resources, and expertise of TAMUSHSC and its medical school. A description of the model is summarized below.

- PVAMU could partner with TAMUSHSC in developing a medical education program, based on a "2 + 2" program model referred to as the “Alternate Model.”

- The stated mission of the new medical program would be to recruit underrepresented students to medical education and to train those students in caring for medically underserved populations in rural and urban areas of Texas.

- The "2 + 2" program could be implemented along a ten-year development plan to prepare underrepresented students for admission to medical school and ultimately lead them to a doctor of medicine degree. Graduates from the TAMUSHSC/PVAMU program would receive their degree from TAMUSHSC “with collaboration and support by Prairie View A&M University.” The institutions would jointly set periodic objectives and evaluate progress toward meeting those goals.

- Initially, TAMUSHSC would work with PVAMU to strengthen that institution’s biomedical science capabilities. TAMUSHSC would also develop a Guaranteed Admission Program for selected PVAMU students seeking entry into the TAMUSHSC medical school.

- Following those steps, TAMUSHSC would provide the first two years of medical education at a “branch campus” at Prairie View. The “branch campus” status would allow TAMUSHSC to extend its existing LCME accreditation and exercise responsibility for meeting the rigorous national accreditation standards for a branch campus of a medical school. As the program matures, PVAMU could assume additional responsibility for the first two years of the curriculum. TAMUSHSC, through its contractual agreement with Scott & White Memorial Hospital and Clinics (Scott & White), or other entity, would provide the last two years of the medical students’ medical education (clinical component).

**Proposed Timeline**

Years 1-4: TAMUSHSC and PVAMU would collaborate on three critical activities to ensure the success of the new medical education program at PVAMU: 1) recruiting students from across the state who show a desire and aptitude for a career in medicine; 2) hiring faculty and developing research activities appropriate for graduate-level
biomedical science education; 3) working with TAMUSHSC to expand PVAMU’s pre-medicine program into a Guaranteed Admission Program (GAP). Under GAP, qualified undergraduate students at PVAMU would be admitted automatically to TAMUSHSC’s medical school if they completed a required curriculum, maintained a specific level of academic standing, participated in special pre-medicine programs, and satisfied other requirements.

Years 5-6: At a TAMUSHSC branch campus in Prairie View, TAMUSHSC, in collaboration with PVAMU faculty, would offer the first year of the medical school’s curriculum. Medical students would then continue their basic science education at TAMUSHSC in College Station and later, their clinical education at TAMUSHSC’s clinical partner, Scott & White in Temple or another clinical affiliate.

Years 7-8: At the TAMUSHSC branch campus in Prairie View, TAMUSHSC, in collaboration with PVAMU faculty, would offer the first and second years of the medical school’s curriculum. Medical students would then continue their clinical education at Scott & White in Temple or another affiliate.

Years 9-10: The two institutions would offer students a seamless transition from a pre-medicine undergraduate degree program to a doctor of medicine degree program. TAMUSHSC and PVAMU faculty, with administrative oversight by TAMUSHSC, would provide the first two years of medical education at the TAMUSHSC branch campus in Prairie View. Students would continue their education in Temple or another affiliate.

Future Years: With the success of the “2 + 2” program, the Texas A&M University System and the Legislature could consider extending the strategic plan into the next decade, where PVAMU would have increasing responsibilities for the medical education program, and could perhaps obtain independent accreditation from LCME.

Assumptions

The Board has made the following assumptions in preparing its analysis of the Alternate Model:

- Texas A&M University System Health Science Center (TAMUSHSC) would be the accredited body for all four years of the medical education program, and in collaboration with PVAMU, would confer the Doctor of Medicine (M.D.) degree.

- The TAMUSHSC branch campus at PVAMU initially would have a class size of 32 medical students.

- The branch campus would use many of the existing resources available from TAMUSHSC at its campuses in College Station, Houston, and Temple. By sharing resources and duplicating existing practices, costs associated with
general operations and program development (e.g., administration, library materials, curriculum) would be reduced significantly. Other on-going costs (such as faculty salaries) would be less due to “economies of scale.”

- The first medical students would be admitted to the “branch campus” program only after all benchmarks set in years one through four had been met and only after the program had received LCME accreditation.

What Resources Would Be Required?

The following information summarizes the resources needed for the "2 + 2" Alternate Model in the broad categories of Administration, Facilities and Equipment, Faculty, and Curriculum:

Administration

LCME Standards:
The dean must be qualified by education and experience to provide leadership in medical education, scholarly activity and care of patients.

The dean should have the assistance of such associate or assistant deans and staff as are necessary for administration of the medical school.

The system of academic advising for students must integrate the efforts of faculty members, course directors, and student affairs with the school’s counseling and tutorial services.

A medical school must provide students with effective financial aid and debt management counseling.

Assessment:
The Alternate Model would capitalize on an existing administrative structure that is currently in place at College Station and Temple. In the first four years, TAMUSHSC and PVAMU would develop PVAMU’s pre-medicine program. That would require hiring additional educational administrators, student advisors and recruiters. By the fifth year of the ten-year plan, TAMUSHSC would have a branch campus dean, a financial officer, and personnel for the six departments of the basic science curriculum.

Administrative support staff would be hired incrementally at the branch campus, College Station and the principle clinical affiliates the program matures.

Administrative and operating costs would represent approximately 45 percent of the program budget, excluding facility and equipment costs.
Success of the alternate program would be enhanced by significant financial aid for both undergraduate students and medical students, totaling $16.5 million over the ten-year period.

Est. 10-year Costs: $64.5 million (includes general administration, student services, and financial aid)

Facilities and Equipment

LCME Standard: A medical school must have facilities, or be assured use of buildings and equipment appropriate to achieve its educational and other goals.

The medical school must have, or be assured use of, appropriate resources for the clinical instruction of its medical students.

The medical school must have access to well-maintained library and information facilities, sufficient in size, breadth of holdings, and information technology to support its education and other missions.

Assessment: The Alternate Model would capitalize on existing facilities and equipment that are currently in place at Prairie View, College Station and Temple. Despite the use of existing resources, the Board estimates that the new program at Prairie View would require a 160,000 gross square foot medical education building for offices, classrooms, research and laboratory activities. The building and furnishings would cost $38.4 million ($240 per square foot), perhaps financed by Tuition Revenue Bonds over a 20-year period. The Board also estimates a significant investment in capital equipment to support the basic science curriculum and to transmit some lecture and lab instruction via distance education.

No new facilities are needed at Scott & White in Temple. TAMUSHSC and the Hospital recently financed two new buildings to expand educational and research activities.

The program would use existing library facilities on the PVAMU campus, with expanded holdings required.

Est. 10-year Costs: $43.9 million (includes building costs and capital equipment)

Faculty

LCME Standards: The recruitment and development of a medical school’s faculty should take into account its mission, the diversity of its student body, and the population that it serves.
There must be a sufficient number of faculty members in the subjects basic to medicine and in the clinical disciplines to meet the needs of the educational program and the other missions of the medical school.

Persons appointed to a faculty position must have demonstrated achievements commensurate with their academic rank. Members of the faculty must have the capability and continued commitment to be effective teachers.

Assessment: The Alternate Model would capitalize on faculty members and physicians who are currently employed at College Station and Temple. In the first four years, the schools would hire six new basic science faculty at PVAMU and begin hiring medical school faculty for the basic science curriculum. By the sixth year, the branch campus would have at least four full-time faculty members in each of the school’s six academic departments. Other faculty would have joint appointments at College Station and Prairie View or teach via distance learning from College Station, Houston or Temple.

Est. 10-year Costs: $28.9 million (includes faculty salaries, one-time start-up allocations to new faculty, and the contractual increase at Scott & White or other affiliate)

Curriculum

LCME standard: The curriculum must incorporate the fundamental principles of Medicine and its underlying scientific concepts; allow students to acquire skills of critical judgment based on evidence and experience; and develop students’ ability to use principles and skills wisely in solving problems of health and disease.

It must include … anatomy, biochemistry, genetics, physiology, microbiology, and immunology, pathology, pharmacology and therapeutics, and preventative medicine.

The curriculum should include clinical experiences in family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry, and surgery.

Assessment: Faculty may want to modify the curriculum content to reflect the unique mission of the branch campus but, otherwise, the curriculum would duplicate the educational content and departmental structure at TAMUSHSC in College Station.

To support the curriculum, the PVAMU library would need to build a biomedical science collection appropriate for graduate-level instruction. Some of these costs could be deferred by sharing
resources via electronic subscriptions and library loan with the library at College Station, but significant additional resources at PVAMU would be required.

Est. 10 Yr. Costs: These costs are included within the other categories.

How Much Would the Alternate Model Cost?

The following table shows the costs of the Alternate Model over a ten-year period ($137.4 million). Greater detail is in Appendix M.

Cost Comparisons of Statutory and Alternate Models

A comparison of 10-year costs for each model is as follows:

<table>
<thead>
<tr>
<th>Costs by Broad Category</th>
<th>&quot;Statutory Model&quot;</th>
<th>&quot;Alternate Model&quot;</th>
</tr>
</thead>
<tbody>
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<td>$123,909,378</td>
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<tr>
<td>Total Costs</td>
<td>$230,565,732</td>
<td>$137,373,998</td>
</tr>
</tbody>
</table>
Section IV

What Other New or Existing State Initiatives Could Address Some of the Goals of House Bill 42?

The Board recognizes that one of the most important, if unstated, objectives of House Bill 42 is to increase the number of underrepresented students (Blacks, Hispanics, and economically disadvantaged) in the state’s medical schools, and thereby increase the number of physicians from underrepresented groups. This objective is particularly relevant in light of a recent study completed by the Board which showed that Texas has made little progress in enrolling Black and Hispanic students in those schools during the last decade. (See page 6 and Appendix I). Furthermore, Texas schools appear to be competing with each other for the small number of underrepresented students that do apply. The study found that while most, if not all, qualified underrepresented applicants received offers of admission from Texas medical schools, the size of the pool continues to be very small. Therefore, the total enrollment of underrepresented students in Texas medical schools is much more a reflection of the size of the underrepresented applicant pool than of the qualifications of individual applicants.

General Approach to Finding Solutions

To increase the size of the applicant pool, the Board wanted to consider new long-term and short-term strategies partnerships and linkages between medical schools, undergraduate schools and K-12 schools. Such strategies could provide a continuum of opportunities for students to learn more about medical careers and to improve their math and science skills. The Board also considered the continuation of existing recruitment programs that have not fully matured during this last ten-year period. An example of these programs is the Joint Admission Medical Program (JAMP), which was created by the Legislature in 2001. That program has had little time to show any results in recruiting and enrolling economically disadvantaged students. Overall, the Board reviewed these strategies with the expectation that they would be less costly than establishing a new medical school at Prairie View A&M University and would prove to be equally effective in meeting the goal of increasing the number of underrepresented students in medical school.

Research and Analysis

To identify the most promising strategies, the Board conducted a four-part analysis of underrepresented minority recruitment efforts:

1) It reviewed recent articles published in professional journals that discussed and evaluated medical school minority recruitment and retention efforts;

2) It surveyed the state’s eight medical schools to determine their level of involvement and success in similar recruitment and retention activities;

3) It studied selective statewide initiatives that could serve as a model for instruction and recruitment at different levels of the educational pipeline; and
4) It reviewed programs implemented in states that have a high enrollment of minority students (relative to the percentage of those minorities in the particular state’s total population).

**Literature Review**

*How would you teach a lesson about the skeletal system to a class of 30 12-year-olds, many of whom speak English as a second language?*

This question, posed in a 1999 article in *Academic Medicine*, captures the essence of two major findings from recent studies on the recruitment of underrepresented minority students. First, studies recommended that any new programs should focus on preparing potential medical school students earlier in the educational pipeline, whereas programs in the past two decades have been driven by short-term tactical approaches that focus on college-to-medical school issues. A study by Baylor College of Medicine reinforced this finding, revealing that achievement gaps in science begin in elementary schools, where many students lose interest in science-related studies. Early achievement gaps are particularly apparent among students from underrepresented groups.

Secondly, studies revealed that any program at this early period in the students’ education should involve both students and teachers. Research showed that many elementary school teachers, particularly those in inner city and rural areas, often have fewer resources, less training and less experience in science, and thus are often intimidated by science topics. Not surprising, those factors often affect their students’ attitudes about science and are reflected in early test scores. Many of these articles advocated programs which improved the science curriculum from elementary through high school, and promoted programs that instruct the teacher as well as the student.

Overall, the literature had several common threads: improving skills among elementary, middle and high school teachers; helping students at all levels of the educational pipeline build their science knowledge; and giving students opportunities, through an inquiry-based curriculum, to learn and become excited about careers in medicine. Yet, despite these commonalities and the success of some specific programs in recruiting underrepresented minorities, there was little quantifiable data which showed the superiority or cost effectiveness of one strategy over another strategy. It appears that medical schools around the country are using a varied combination of programs to expand the pool of underrepresented minority applicants.

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Survey Results from Texas Medical Schools

The Board surveyed the state’s medical schools in August 2002. Results showed that all of the medical schools offered one or more academic enhancement and retention programs for college students and one or more special summer programs for middle school and high school students. Most of these programs represent collaborations between nearby universities and local school districts. The survey showed that the majority and the most established of these programs are located in the southern part of the state, where a high proportion of the students are Hispanic. Medical schools also offer programs in the Houston and Dallas Independent School Districts, where both Hispanic and Blacks represent a significant portion of the student population. In addition, two medical schools have guaranteed/conditional admission programs with two Historically Black Institutions (among a number of admission programs with other institutions). These efforts aside, none of the schools have major programs specifically addressing the recruitment of Black students. This could be due, in part, to the fact that Blacks represent a smaller percentage of the state’s total population and do not have an equivalent population density in any region of the state as Hispanics do in South Texas and in the Upper Rio Grande Valley.

The survey also showed that in several cases, more than one medical school was providing instruction to the same student population. For example, Baylor College of Medicine, The University of Texas Health Science Center at San Antonio and The University of Texas Medical Branch at Galveston have programs at The University of Texas-Pan American, and both Baylor College of Medicine and The University of Texas Health Science Center at San Antonio partner with the K-12 schools in Laredo.

In a few cases, the survey revealed that schools offer unique services. The University of Texas Health Science Center at Houston, for example, is the only school to offer an alternate pathway in its medical school curriculum, where the first two years of basic science instruction are expanded to three years in order to assist educationally disadvantaged students who often need more time to assimilate the material. Three medical schools conduct post-baccalaureate, pre-entry programs and four schools report having guaranteed or conditional admissions programs with one or more universities. Of these four, The University of Texas Medical Branch at Galveston (UTMB), the school having the best overall record in recruiting minority students during the last ten years, has partnerships with six state universities: The University of Texas at Brownsville, The University of Texas at El Paso, the University of Texas-Pan American, Texas A&M International University, Prairie View A&M University and Texas Southern University. As part of the program, UTMB admits five freshman students from each of these universities each year.

A full description of these programs can be found in An Overview of Recruitment Retention Efforts At Texas Medical Schools and Other States’ Efforts, an October 2002 publication prepared by the Board. The Overview also is included in Appendix N.
Statewide Programs for Medicine and Other Fields

**Joint Admission Medical Program (JAMP)**

The 77th Texas Legislature created JAMP (Senate Bill 940) to provide services to support and encourage highly qualified, economically disadvantaged students in preparing for and succeeding in medical school (See Appendix O). The program will select students enrolled as freshmen at the state’s public and independent general academic institutions, track them through their undergraduate education, and then match them in their senior year with one of the state’s eight medical schools. Students selected for JAMP will receive scholarships throughout their undergraduate and medical school education programs and stipends for summer internship programs, contingent upon continued participation in the program and meeting JAMP requirements. Those requirements include maintaining a specified grade point average, taking specific pre-medicine coursework, and participating in summer enrichment programs.

The first “class” of 128 JAMP participants will be selected in spring 2003. The class will represent one student from each of 12 independent colleges and two to nine students (depending on the school’s enrollment) from each of 31 public colleges and universities. As a JAMP participant, a student will receive: a $2,000 scholarship per semester beginning in the student’s sophomore year of college (fall 2003); a $4,000 stipend to attend summer enrichment programs (beginning in summer 2003); mentoring and personal assistance to prepare for medical school at the attending college; admission to a Texas medical school if all program requirements are satisfied; and a scholarship to attend medical school.

Participating general academic institutions and the state’s medical schools also will receive JAMP funds to cover some of their operating expenses to administer the program.

The Legislature appropriated $4 million to the Board for JAMP during the current biennium. By contract, the Board transferred those funds to the JAMP Council, the statutory body authorized to select students for the program, award undergraduate and graduate scholarships and summer stipends, and guarantee medical school admission to qualified participants. The JAMP administrative functions are provided by the Texas Medical and Dental Schools Application Service housed at The University of Texas System Office. The Board has requested an additional $5.2 million ($9.2 million total) to support JAMP for the 2004/05 biennium.

JAMP was modeled after the Premedical Honors College (PHC) that partnered Baylor College of Medicine with The University of Texas-Pan American (UTPA), the nation’s largest predominantly Hispanic undergraduate institution. The PHC is an eight-year, high school-through-medical school-pathway that targets students from 13 counties in South Texas. Since the PHC began in 1994, 71PHC students have completed the undergraduate portion of the program at UTPA. Of these, 60 students (84.5 percent) have matriculated into Texas medical school.
TexPREP is a statewide, nationally recognized summer enrichment program that recruits high-achieving middle school and high school students and provides encouragement and reinforcement to them in pursuing engineering and science careers. The program is presented in eight-week sessions over the course of three summers. It is targeted toward, but not limited to, students who are members of minority groups or are female -- groups who have traditionally been underrepresented in the professions of engineering, mathematics, and science.

TexPREP was founded in 1979 on the campus of The University of Texas at San Antonio (UTSA). Since 1986, the San Antonio PREP model has been replicated in 14 other Texas cities: Amarillo; Arlington; Austin; Brownsville, Corpus Christi; Dallas; Edinburg; El Paso, Fort Worth; Harlingen; Houston; Laredo; Lubbock and San Angelo. (See Appendix P for a list of participating institutions). The program is academically intense and mathematics-based and stresses the development of abstract reasoning skills, problem-solving skills, and career opportunities in engineering and science. Students complete class assignments and laboratory projects and take scheduled examinations. They also make field trips to different worksites and hear guest speakers explain various career opportunities. Final grades are reported to each student's school.

Each site is staffed by paid faculty members from various disciplines and industries such as college faculty, high school teachers, industrial engineers, scientists and mathematicians, and Program Assistant Mentors, typically undergraduate engineering, mathematics and science majors. Sites have local collaborations that foster in-kind contributions from private industry and private and public institutions. Since 1979, the San Antonio PREP, for example, has received $17.6 million through financial and full-time in-kind staff support and contributions from local, state and national organizations.

TexPREP charges no tuition or fees. In this way, low income is much less a barrier for applicants. In addition, TexPREP sites have been designated as a worksite by Workforce Investment Act/Summer Youth Program (WIA/SYP) sponsors. Some economically disadvantaged students have earned up to $600 for their TexPREP experience by participating in this collaborative program with WIA/SYP.

In summer 2001, 2,308 students completed TexPREP. Of those students, 79 percent were members of minority groups underrepresented in science and engineering. Since the program's began in 1979, 18,992 students have completed at least one summer component at a TexPREP site. From a 2001 survey of 10,096 former participants who are college age, the following results (53 percent response rate) were compiled:

- 99.9 percent are high school graduates
- 88 percent are college students
- 90 percent of the college attendees are college graduates. 75 percent of the college graduates are members of minority groups
- 51 percent of the college graduates are science, mathematics, or engineering majors
71 percent of the science, mathematics, and engineering graduates are members of minority groups

UTSA received a $1.3 million special item appropriation to support TexPREP for the FY2002/03 biennium. Those state funds are distributed based on the previous year’s enrollment at the different sites and represent approximately 19 percent of total program costs ($3.3 million in 2002) for a two-year period. Annual program costs vary by the number of participants at each site, ranging from $167,038 (40 participants) to approximately $2.2 million (1,000 participants).

**Strategies in Other States**

The Board reviewed programs in states where the percentage of minority students in medical school approximated the percentage of the state’s minority population. The review found that schools in these states were applying the same types of instructional and enrichment programs that are being used in Texas. In some cases the programs are more established than those in Texas; in other cases, the states’ size, history, and proximity to other states contributed to their efficiency and success in recruiting minority students. Some of the admissions and recruitment officers in those states also attribute their schools’ high minority enrollment figures to out-of-state recruitment. Many of these medical schools have long histories of tracking and aggressively recruiting minority prospects on a national level. In Texas, public medical schools are not eligible to receive state appropriations if more than 10 percent of their class is comprised of non-resident students (Senate Bill 1, General Appropriations Act, [Section 13, page III-233], 77th Texas Legislature). As a result, the cap limits Texas schools’ out-of-state recruiting and thereby limits their potential to increase their minority enrollment in ways practiced by some other schools (if we assume that, at least as a short term solution, schools must recruit from a series of other small applicants pools in other states).

**Key Findings**

From this analysis, the Board has concluded:

1) Recruitment and enrichment programs should prepare potential medical school students earlier in the educational pathway, extending to the lower grades.

2) These programs should include training for teachers as well as for students.

3) Very little quantifiable data exist that supports the effectiveness of one type of recruitment or instructional program over another type of program.

4) Many states that have been successful in enrolling minorities have programs similar if not identical to those offered in Texas. The schools in those states, however, attribute some of their success in increasing minority enrollment to nationwide recruitment efforts.
5) Each of the state’s medical schools offer at least one academic enrichment program for college students and at least one summer study program for middle school and/or high school students.

6) The majority of these K-16 programs target areas or schools in the state with large Hispanic populations. None of these programs focuses specifically on Black populations, although several schools have programs in areas with large Black populations and two schools have admissions programs with Prairie View A&M University and Texas Southern University as well as other universities.

7) Descriptions of collaborations between Texas medical schools and K-16 institutions indicate that in some cases more than one medical school is offering programs to the same student population.

8) JAMP, the only statewide program targeting students beginning at the collegiate level, is designed to provide uniform instruction and eliminate duplication of effort among participating schools.

9) TexPREP, a program targeting junior high and high school students for careers in engineering, has been successful in a number of locations in the state and has been adapted easily to other science-based disciplines. It could also be adapted for medical school preparation.

**Formula Funding Initiatives to Increase Enrollment of Underrepresented Students in Medical Schools**

In recent years The Board has suggested special funding formulas to support recruitment efforts. In its *Formula Funding Recommendations for the 2002-03 Biennium* (April 2000), the Board recommended a new fund bonus for medical and dental schools. The funding bonus would have equaled one-half of the per student appropriation to each second-year medical and dental student who was recruited through a Board-approved educational partnership with a Historically Black or Hispanic-serving higher education institution in Texas. The funding bonus was estimated to require $3.6 million in formula funding to the state’s medical and dental schools for the 2002-03 biennium.

In its 2004-05 biennium recommendations, the Board recommended that the health-related institutions receive a 10 percent supplement for each student enrolled who met the definition of a "disadvantaged" student. The Board also recommended that one-half of the supplement provided to each institution be used to provide direct aid to the qualifying students. The supplement would apply to all program areas. Criteria for "disadvantaged" student used in this recommendation were: 1) the Expected Family Contribution as an undergraduate was $3,000 or less; and 2) the student is a first-generation college student. The supplement is estimated to require $10.6 million in formula funding for the 2004-05 biennium.

**Initiatives to Strengthen PVAMU**

Another important, if unstated, objective of House Bill 42 is to expand the academic opportunities available to PVAMU students. House Bill 42 closely followed another major
state initiative affecting PVAMU in October 2000, when the Board adopted the *Priority Plan to Strengthen Education at Prairie View A&M University and at Texas Southern University* (Appendix Q). The *Priority Plan* was the work product of the Board's Committee on OCR Issues. That committee was formed to address concerns expressed by the U. S. Office for Civil Rights (OCR) in March 1999. OCR had reached a preliminary conclusion that disparities traceable to *de jure* segregation still existed at Prairie View A&M University and Texas Southern University. The key disparities identified were in the areas of the mission of the universities, the land grant status of Prairie View A&M University when compared to Texas A&M University, program duplication, facilities, funding and the racial identifiability of public universities in Texas. The *Priority Plan* resulted from the collaboration and cooperation of OCR, the Governor's Office, representatives of the universities, and the Board. These groups worked together to devise a plan that would enhance and strengthen the two institutions. A Commitment to Resolve outlining the collaborative process and signed by then Governor George W. Bush and OCR officials was finalized on May 17, 2000.

For Prairie View A&M University, the plan includes key initiatives to improve recruitment, retention and graduation of students; strengthen systems related to information technology and human resources; strengthen key academic programs (particularly, nursing, engineering, educator preparation, architecture, and juvenile justice); add state-of-the-art buildings for key programs; complete building renovations; strengthen the institutional development office; create 12 endowed chairs for new and existing programs; add a merit scholarship program; amend the statutory mission statement to ensure that it includes no exclusionary language that discourages any Texan from taking advantage of the excellent educational opportunities afforded at Prairie View A&M University; and other important steps.

The *Priority Plan* for Prairie View A&M University does not include the establishment of a PVAMU medical school, nor the institution's participation in a "2 + 2" partnership with an existing medical school, as envisioned by House Bill 42. However, such an initiative could be complementary to the *Priority Plan*, particularly if it could be done without diverting resources away from achieving the Plan's goals.

**Results and Conclusions**

The Board believes that to increase the number of underrepresented students in medical school, the state must enlarge the pool of underrepresented applicants to medical school. To do that, Texas must reach further down the educational pipeline and create partnerships and linkages among medical schools, undergraduate schools, and elementary, middle, and high schools. Those linkages will provide a continuum of encouragement and preparatory experiences for promising students. As an institution with a large Black enrollment, PVAMU could have a significant role in any coordinating statewide effort role of this kind.

Creating this educational pipeline must be viewed as a long-term investment but can be combined with a number of other efforts and remedies. The following Underrepresented Medical Student Recruitment Plan focuses on the long-term investment; additional efforts follow this section.
Underrepresented Medical Student Recruitment Plan (Plan)

The Plan has two components that address this goal of extending the educational pipeline.

The first component of the Plan would be to expand and enhance K-12 programs into a statewide network of summer study programs. New programs would be based on the TexPREP model but would emphasize medical careers. Existing programs would continue to be refined and expanded based on “best practices” identified through a coordinated effort by participating schools. Implemented on a regional or local basis, each program would be collaborative, focused on a shared work effort among experts at various educational institutions in the area. Partnerships among local school districts, community colleges, four-year institutions, and medical schools would eventually serve as the foundation for other collaborative efforts, including financial aid and guaranteed admissions programs. The partnerships would help to forge a continuum of instruction and opportunity for promising students. A summer program with 100 participants is estimated to cost $637,000 for the 2004/05 biennium, $1.7 million for the first five years, and $3.5 million for ten years. Details of those costs are provided in Appendix R.

The second component would concentrate on extending and enhancing the existing recruitment and retention program at PVAMU. (This component could, of course, be replicated at other universities that enroll large numbers of underrepresented populations.) The school would be a site for a K-12 summer study program patterned after TexPREP. Consistent with its mission statement, PVAMU would be expected to attract participants from its targeted service areas which include the Texas Gulf Coast, the Northwest Houston Corridor, and urban Texas centers. As part of the second component, PVAMU also would have additional resources to recruit the summer study participants into an enhanced pre-medicine degree program at the university. Within this enhanced undergraduate program, PVAMU would continue to work with one or more the state’s medical schools through JAMP and other guaranteed and conditional admissions programs to prepare its students for medical school admissions. The University of Texas Medical Branch at Galveston has shown interest in working with PVAMU on this program. Costs for enhancing the pre-medicine degree program are estimated to be $2.1 million for the 2004/05 biennium, $6.5 million for the first five years and $14.2 million for ten years. Those costs include hiring a program director, additional recruiters and student advisors, and new faculty members in the biosciences, renovating office space in the first year, and building the library’s resources in key subject areas. An analysis of those costs is provided in Appendix R.

Estimated ten-year costs for a summer study program, modeled after TexPREP, and for the enhanced pre-medicine program at PVAMU total $17.7 million.

Additional Strategies to Increase the Number of Underrepresented Students in Medical Education.

The Board also recommends the following additional strategies:

- The State should continue to support initiatives to improve mathematics and science curricula in its K-12 schools.
As part of the Underrepresented Medical Student Recruitment Plan, the state’s eight medical schools should develop a statewide strategy to better coordinate recruitment and retention efforts. The strategy would identify “best practice” components for all similar programs and would attempt to draw certain geographic boundaries and create joint programs where there are now duplicate or overlapping programs.

Other Possible Efforts

- The Board could dedicate a portion of the 2003/04 Minority Health Research and Education Grant Program competition to research that would evaluate the effectiveness of medical school recruitment and retention efforts in Texas.

- The Board could allocate a portion of the funding from the Statewide Higher Education Awareness and Motivational Campaign to promote careers in key health professions (physicians, dentists, nurses) where certain groups are significantly underrepresented. The Campaign could profile successful underrepresented students and health care professionals and help dispel gender and ethnic stereotypes.

- Medical societies and related organizations could establish mentoring programs to use retired and active physicians to coach and tutor students who show a potential for and interest in medical careers.

- The Legislature could exclude underrepresented students from the 10 percent cap on nonresident admissions by the state’s public medical schools.
Section V

Summary Findings

Overview

This report addressed four principal questions:

1) What determines feasibility? (accreditation issues, resources, etc.)

2) What resources would be required to support a "2 + 2" program as specified in House Bill 42?

3) What alternatives to the "2 + 2" program as specified in House Bill 42 could be considered that would establish a medical education program at PVAMU?

4) What other new or existing state initiatives could address some of the goals of House Bill 42?

To answer these questions, the Texas Higher Education Coordinating Board (Board) assembled and reviewed a variety of data on medical education, toured existing institutional and medical facilities, interviewed academic administrators and national accrediting authorities, and studied the structures of medical schools, including Morehouse College of Medicine, which was founded for the purpose of educating minority physicians to practice in medically-underserved areas. It also studied special reports and long-range plans previously prepared by the Board and by other entities.

The Board and its staff held six public meetings. The first meeting, with officials of the national accrediting body, the Liaison Committee on Medical Education (LCME), focused on the requirements for accrediting a new medical school. The second meeting was held at Prairie View A&M University to hear public comment on a draft of the report. The third meeting was held by a subcommittee of the Board to review and discuss the report’s findings and recommendations. The full Board then considered the report at its quarterly meeting in July 2002, at which time it directed staff to investigate alternatives to a four-year medical school at PVAMU. At the fifth meeting, the same subcommittee of the Board reviewed and discussed the report’s expanded findings and recommendations. Lastly, the Board considered and approved the report at its quarterly meeting in October 2002. Appendix B summarizes Board and staff activities in completing this report.

Study Findings

The Board finds that:

Under Section I on the feasibility of a partnership with PVAMU:

1) To practice medicine, a physician who is trained in the United States or Canada must graduate from an accredited medical school. Consequently, a new medical school, created at PVAMU or any other institution, would have to obtain national accreditation by the Liaison Committee on Medical Education. Accreditation requirements are complex and rigorous. An institution must provide significant
resource commitments to medical instruction, clinical training, medical practice, and related biomedical research, and demonstrate financial support from diverse sources. It would be difficult and costly for any general academic institution that lacks expertise and experience in medical education to establish a medical school.

Under Section II on resources required of PVAMU and a partner to support a “2 + 2” program as specified in House Bill 42:

2) Developing a medical school at PVAMU, with PVAMU as the accredited, degree-granting institution (referred to in the report as the “Statutory Model”), would be both costly and difficult to implement without the direct assistance and experience of an existing medical school or other major health education provider. That would be the case even if the clinical education was provided by an affiliate partner as proposed in House Bill 42. A review of PVAMU’s existing resources shows that the university would likely require a new medical education building, more than 25 new basic medical science faculty members, and significant additional administrative support to provide the first two years of medical education on the Prairie View campus. PVAMU would also require significant time and commitment of resources before it could oversee the instruction provided by a clinical partner (which it would be required to do if it were the accredited, degree-granting entity). Appendix C includes PVAMU’s Institutional Profile, Mission Statement and Table of Programs. Estimated ten-year costs for that model total $230.6 million.

3) Texas A&M University System Health Science Center (TAMUSHSC) would be the best partner because: 1) it is within the same university system, thus simplifying governance and administrative issues; 2) it has the potential, with additional support, to expand its class size beyond the 64 new students it currently enrolls each year; and 3) it is located approximately 51 miles from Prairie View. Appendix D includes TAMUSHSC’s Institutional Profile, Mission Statement and Table of Programs. This collaborative medical program initiative with PVAMU should not preclude additional efforts by TAMUSHSC to address medical education needs in other parts of the state, or to enhance programs on its own campus.

4) In summer 2002, TAMUSHSC showed interest in this collaborative effort.

5) To enhance the stated mission of the medical education program at PVAMU, TAMUSHSC would develop a special clinical track in urban and rural medicine, with particular emphasis on practicing in medically underserved areas.

6) If current TAMUSHSC affiliates (Scott & White Memorial Hospital and Clinics) reach capacity for training medical students, TAMUSHSC could consider UTHC-Tyler as an alternative site for the clinical component of the medical education program. Their hospital has had some experience in training students from medical schools, and is located in a region of the state with a number of potential clinical training sites in rural and urban settings.
Under Section III on an alternative to the “2 + 2” program as specified in House Bill 42:

7) If the State were to establish a medical degree program at PVAMU, a partnership with an existing, accredited medical school (with that school awarding the degree) would be more cost effective for the State, would lead to the quicker development of a medical program at PVAMU, and would be more likely to ensure a smooth and successful transition toward eventual national accreditation of a PVAMU medical school. That approach is referred to in the report as the “Alternate Model.” Estimated ten-year costs for that model total $137.4 million.

8) Under the “Alternate Model,”

- PVAMU would partner with TAMUSHSC in developing a medical education program, based on a "2 + 2" program model.

- The stated mission of the new medical program would be to train students in caring for medically underserved populations in rural and urban areas of Texas.

- The “2 + 2” program would be implemented along a ten-year development plan to prepare students for admission to medical school and ultimately lead them to a doctor of medicine degree. Graduates from the TAMUSHSC/PVAMU program would receive their degree from TAMUSHSC "with collaboration and support by Prairie View A&M University.” The institutions would jointly set periodic objectives and evaluate progress toward meeting those goals. A proposed timeline begins on page 25.

- Initially, TAMUSHSC would work with PVAMU to strengthen that institution's biomedical science capabilities. TAMUSHSC would also develop a Guaranteed Admission Program for selected PVAMU students seeking entry into the TAMUSHSC medical school.

- Following those steps, TAMUSHSC would provide the first two years of medical education at a “branch campus” at Prairie View. The “branch campus” status would allow TAMUSHSC to extend its existing LCME accreditation and exercise responsibility for meeting the rigorous national accreditation standards for a branch campus of a medical school. As the program matures, PVAMU would assume additional responsibility for the first two years of the curriculum. TAMUSHSC, through its contractual agreement with Scott & White Memorial Hospital and Clinics (Scott & White), or other entity, would provide the last two years of the medical students’ medical education (clinical component).

- TAMUSHSC and PVAMU would prepare a strategic plan that both institutions could use to evaluate the success and progress of the collaborative medical program. The plan would identify benchmarks that could be used to gauge when the institutions would advance to the next stage in the plan.
Summary of costs associated with the two models presented in Sections II and III:

9) A comparison of 10-year costs for the two models is as follows:

<table>
<thead>
<tr>
<th>Costs by Broad Category</th>
<th>“Statutory Model”</th>
<th>“Alternate Model”</th>
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<td>Total Costs</td>
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<td>$137,373,998</td>
</tr>
</tbody>
</table>

Note: A different approach involving PVAMU in a plan to increase the number of underrepresented students in medical school is described in Section IV of the report and summarized in Findings 11-14. Ten-year costs for that effort would be $17.7 million. The plan could be expanded to involve other institutions.

Under Section IV on other new or existing state initiatives that could address some of the goals of House Bill 42:

10) If one of the unstated goals of House Bill 42 is to increase the number of underrepresented students (Hispanics, Blacks, and economically disadvantaged) in medical school (and thereby increase the number of physicians from underrepresented groups), the State could develop other strategies that would be less costly than establishing a new medical school at PVAMU and could be equally effective in meeting that goal.

11) Results from a recent Board survey show that each of the state’s medical schools offers at least one pre-medicine enrichment program for college students and at least one summer study program for middle school/high school students. The majority of these programs target areas or schools in the state with large Hispanic populations. Descriptions of these programs indicate that in some cases more than one medical school is offering programs to the same student population.

12) While the survey results attest to the medical schools’ commitment to recruiting underrepresented students, research shows that the State should concentrate more of its recruitment efforts at lower grade levels if it hopes to increase the pool of underrepresented applicants to medical school. As part of its efforts, the State should support new and existing initiatives that create partnerships and linkages among K-16 educational institutions. Those linkages will provide a continuum of encouragement and preparatory experiences for promising students.

13) The State could establish a statewide recruitment plan to meet two major objectives: 1) expand and enhance K-12 medical preparatory programs into a statewide network of summer study programs; and 2) develop pre-medicine programs at public higher education institutions that enroll a larger number of underrepresented students. The plan also would identify “best practices” for existing programs and would attempt to draw geographic boundaries and create joint programs where there are now duplicate and overlapping programs.
14) As an institution with a large Black enrollment, PVAMU could have a significant role in a statewide recruitment plan. It could host a summer study program for middle-school and high school students and, with the coordinated effort of medical schools in the region, expand and enhance its pre-medicine/guaranteed admission programs. Estimated ten-year costs for the summer study program and the enhanced pre-medicine program at PVAMU total $17.7 million.