

**NEW MEDICAL SCHOOL PROPOSAL
STAFF ANALYSIS**

Institution: Florida International University
Program: Allopathic Medicine (CIP #51.1201) **Level:** Doctor of Medicine (MD)
Proposed Implementation Dates: Fall, 2008 Implementation

ENROLLMENT AND COSTS SUMMARY						
Implementation Timeframe	Projected Student Enrollment			Projected Program Costs		
	Headcount	FTE	Cost per FTE (E&G/FTE)*	Education & General Funding	Non State Funding	Facilities Investments** <i>S = State N = Non-State</i>
Planning Year 1				\$5,471,895		
Planning Year 2				\$11,667,795		
First Year	36	36	\$75,000	\$17,128,615	\$91,688	
Second Year	102	102				
Third Year	180	180				
Fourth Year	282	282				
Fifth Year	366	366	\$59,256	\$21,687,632	\$2,286,500	
Eighth Year	462	462	\$44,113	\$21,174,383	\$3,175,250	
Tenth Year	480	480	\$42,327	\$20,316,733	\$3,175,250	

* Excludes non-recurring GR Special Appropriation through operational year 3.

**Existing Facilities Resources Include: 1) Molecular Biology Building [\$24 million research facility approved in the Capital Improvement Plan, PECO Funds of \$20 million and Federal Grants of \$4 million]; and 2) Instructional and Research facility to be built with funds provided by community contributions of \$20 million and State Match of \$20 million.

Summary Comments on Enrollment and Costs

The cost per FTE calculation for the first year of classes excludes the non-recurring Special Appropriation for start-up. As the state has traditionally funded medical schools on a headcount basis, FIU equated one headcount student with one FTE student for purposes of the proposal. These factors may impact the cost per FTE in comparison with other proposals.

Summary Comments on Need, Demand, and Return on Investment

The FIU model includes the development of a faculty practice plan, which the University believes will become a significant source of funds for the School of Medicine. In addition, it is anticipated that by Year 10, clinical income and contracts and grants will generate 61% of revenues, due to an incorporated research component.

Projected cost and benefits derived from information provided throughout the proposal:

- \$257,256,700 Accumulated Cost to State by Year 10 (includes recurring and non-recurring state appropriations for planning years through Year 10, \$20 million in PECO funds already committed by the state for a biomedical research facility that will be part of the medical school building complex, and \$20 million in state match for anticipated private contributions)
- \$20,316,733 Annual Operational Cost to State at Year 10
- 642 New Medical Doctor Graduates (120 Annually by Year 10)
- 500+ New Residency Positions in Florida by Year 10

- \$784,300,000 Annual Economic Impact by Year 10 (2.35 times the initial expenditures)
- 11,249 Additional jobs in the community
- \$8.7 million In tuition from medical students
- \$64 million In facilities construction
- Increased access to healthcare in South Florida
- Improved quality of healthcare for the South Florida region
- Support for regional economic development interest in biotechnology
- Stronger partnerships with FIU healthcare partners

Data sources are conflicting on the exact number of physicians that will be needed, but all agree that demand outstrips production. These arguments are supported by labor market statistics compiled by the Florida Agency for Workforce Innovation (AWI), which project moderate growth (2.35 percent annual change overall) in the number of physicians needed, with an increase of 6,658 openings by 2012. AWI data also projects 1,290 average annual openings over the same period due to growth and separations. The existing public university medical schools awarded 227 degrees in 2004-05. It should be noted that the projected demand for registered nurses far outpaces the demand for physicians (3.14 percent annual change) with an increase of 35,254 openings by 2012, and 7,158 average annual openings due to growth and separation. Florida public university nursing programs denied admission to over 2000 qualified applicants in 2005 due to inadequate enrollment capacity.

SECTION BY SECTION PROPOSAL REVIEW AND COMMENTS

INTRODUCTION

Program Description and Relationship to System-Level Goals

- 1. The proposal adequately describes the medical program under consideration, including any special emphases, unique partnership arrangements, and the total number of Florida-based medical residency programs that will be created in support of the program.*

The proposal describes a professional program in allopathic medicine that will consist of a 4-year, 156 credit hour curriculum designed to integrate medical education and interdisciplinary research opportunities provided by the other colleges of the University, and to “utilize existing community-based resources in order to educate culturally sensitive physicians who will serve the South Florida region.” FIU’s program will employ a community health and patient-based model focusing on integrated curriculum and collaborate with four of the five largest community hospitals in Miami.

FIU’s model will emphasize community and population-based medical practice and research, and will attempt to address disparities of health and disease, and effectiveness of services in the region. The program will be built on foundations of cultural sensitivity, patient communication skills and competence, and diversity of the faculty and student body. A Faculty Curriculum Integration Committee will identify opportunities for interdisciplinary courses and integrated curricula, will serve to enhance undergraduate pre-professional advising and seamless transition between undergraduate and graduate curricula, and serve as an advisory body to the Honors College on developing a pre-medical track. It is anticipated that the students in the School of Medicine will reflect the race and gender profile of South Florida, and will have a dedication to working with underserved populations in an urban environment. Students will be expected to achieve competency in communication with both English and Spanish-speaking patients.

The primary partner for clinical education will be Mount Sinai Medical Center, with Miami Children’s being the primary clinical partner for pediatrics. According to the proposal, other regional hospitals and clinics have also expressed an interest in becoming affiliates for clinical teaching, including Mercy Hospital and West Kendall Baptist Hospital.

- 2. The proposed program is consistent with the University Strategic Plan Goals and will directly or indirectly support the goals identified below.*

In arguing the program’s consistency with the University Strategic Plan, the proposal refers to the FIU “Millennium Strategic Plan” and its acknowledgement of FIU’s “obligation to the state, the community, and its global constituency to offer academic programs, conduct research, and create partnerships that provide solutions to important problems confronting its local and extended community.” Such key problems cited by the proposal include poor access to health care, lack of diversity in the professions, and lagging economic development. With regard to meeting the goals of the “Millennium Strategic Plan,” the program is expected to:

- Address issues related to poor access to health care
- Address problems related to lack of diversity in the professions
- Address matters concerning lagging economic development

3. *The proposed program is consistent with the State University System Strategic Plan Goals and will directly or indirectly support the goals identified below.*

The proposed program is consistent with the SUS goals to increase degree production in targeted programs. The proposal indicates that the program will support these goals directly through “providing increased access to medical education by a more diverse student body, training doctors to practice in Florida, providing continuing educational development opportunities to healthcare practitioners, and attracting federal and private support for biomedical and biotechnical research and development.” Although not directly mentioned in the proposal, the program should also serve to support the goal of building world-class academic programs and research capability. The proposed School is also expected to address the underrepresentation of well-qualified minorities in the medical professions, through cultivating a student body that mirrors South Florida’s demographics.

4. *The proposal provides a timeline for full implementation that identifies key activities related to seeking funding, facilities planning and construction, faculty recruitment, curriculum development, admission and enrollment of students, achieving Liaison Committee on Medical Education (LCME) accreditation, and development of medical residency programs in Florida.*

A timeline is provided identifying key activities such as BOG Review, administrative and faculty appointments, legislative approval (August 2006), opening of facilities, completion of LCME provisional (August 2007) and full (September 2013) accreditation, recruitment of students, and admittance of first class of students (September 2008). While found elsewhere in the proposal, there is no direct reference to fundraising activities in the timeline. A timeline of activities related to graduate medical education is provided on page 52, beginning with the development of an Office of Graduate Medical Education, and development of clinical training sites for primary care residencies in 2006 through expansion of existing and development of new residency programs. Planning of residency program incorporation at other institutions is to take place from 2010 to 2016.

5. *There is evidence that planning for the proposed program has been a collaborative process involving academic units and offices of planning and budgeting at the institutional level, as well as external consultants, representatives of the community, etc.*

The proposal provides evidence that planning for the proposed program has been a collaborative process including a Medical School Planning Task Force, external consultants, and members of the local medical community during the past two years. The proposal indicates on page 61 that in “anticipating the challenges of accreditation, the University hired...the former Vice President for Medical Education of the American Medical Association” as its lead technical specialist. Further, the proposal notes informal contact with LCME and visitations from leaders of the

Association of American Medical Colleges who monitored and provided advice on planning and accreditation. The FIU Board of Trustees approved the proposal on September 19, 2005.

INSTITUTIONAL AND STATE-LEVEL ACCOUNTABILITY

Assessment of Need and Demand

6. *The proposal provides a convincing argument using national, state, or local data that support the need for more people to be prepared as medical doctors and identifies potential employment options that are consistent with the argument for need and demand, and which are substantiated by other sources.*

The proposal provides a lengthy argument for national, state, and regional need; regional health disparities; and the need to address state physician shortages. The proposal cites the November 2004 CEPRI study conducted for the BOG, the AMA, the AAMC, and various other sources as part of its need and demand assessment. The primary arguments used in the proposal for more people to be prepared as medical doctors are:

Critical National Need

- The AMA Council on Medical Education (CME) and the AMA House of Delegates recognize a national need and a looming physician shortfall.
- CME noted a need with regard to workforce composition, which has implications for access to care, as studies have shown that minority and women physicians are more likely to serve minority, poor, and Medicaid populations. That study showed only about 3.6% of physician workforce to be African-American, 4.9% Hispanic, and 25% female.
- Between 1980-2000, increases were seen in the US population by 22%, real per capita income by 55%, health spending by 434%, the number of allopathic physicians by only 4%, and the number of new medical schools in the United States by 0%.
- In 2002-03, foreign medical school graduates constituted 24% of the active physician workforce in the US.
- Of certificates issued by the Educational Commission of Foreign Medical Graduates for graduate medical education, 22% are going to US citizens educated abroad.
- The AAMC has called for an increase of at least 2,500 more first year medical school admissions. However, out of the 118 US medical schools responding to a survey, only 35 responded that they could grow, with an addition of only 750-1,400 new graduates per year.
- Only 4 new medical schools are known to be under consideration: FIU, UCF, Texas Tech at El Paso, and Cleveland Clinic-Case Western Reserve.

State Need

- Florida's ranking at 16th in total physicians per 100,000 is misleading, due primarily to the fact that the ratio does not take into account that (a) Florida doctors are the oldest in the country with 26% over 65 and only 10% under 35, compared to national averages of 18% and 17% respectively, (b) physicians move to Florida for retirement and still maintain active licenses even though they may not practice, and (c) Florida's aged population needs more medical care.

Regional Need and Regional Health Disparities

- South Florida’s aged physician workforce is particularly vulnerable.
- South Florida’s growing, ethnically diverse population and underdeveloped healthcare infrastructure provide unique challenges.
- Three of the four counties making up the region are among the twelve fastest-growing large counties in the US. (Palm Beach 3, Broward 5, and Miami-Dade 12, respectively).
- The Miami-Dade population is 57% Hispanic or Latino, with 68% over age 5 speaking a language other than English as home.
- South Florida counties account for 27% of Florida’s uninsured, a number expected to grow.
- Large populations of new immigrants and lower-income persons live in areas with little community-based primary care, especially in western and southern Miami-Dade County.
- The proposal includes a comprehensive view health disparities in the region as measured by disease profiles, quality of care indicators, and number and type of medically underserved areas/populations.

State Physician Shortages

- The proposal discusses the recommendations discussed by CEPRI in the Medical Education Needs Analysis with regard to addressing the physician shortage (located on pages 17-22).
- The proposal indicates that FIU is in a unique position to fill the region’s needs for the following reasons:
 - 60% of FIU’s students are Hispanic, 14% are African-American, 80% remain in South Florida following graduation, and 90% of nursing graduates stay in South Florida.
 - FIU believes that development of new medical programs in tandem with a large increase in the number of GME positions is the best solution. The proposal indicates that FIU’s School of Medicine will provide the faculty and resources to increase the total number of GME positions by 500 or more in coming years.

Although the projected number of physicians needed varies somewhat among the studies cited, all agree that a shortage will exist. Labor Market Statistics compiled by the Florida Agency for Workforce Innovation (AWI) also indicate moderate growth (2.35 percent annual change overall) in the number of physicians needed, with an increase of 6,658 openings by 2012. AWI data projects 830 average annual openings over the same period due to growth and 460 annual openings due to separations. The existing public university medical schools awarded 227 degrees in 2004-05.

AWI Labor Market Statistics, March 2005

Title	Employment		Annual Percent Change	Average Annual Openings		
	2004	2012		Due To Growth	Due To Separations	Total
Anesthesiologists	1,668	1,998	2.47	41	21	63
Family and General Practitioners	13,523	15,861	2.16	292	173	465
Internists, General	3,556	4,230	2.37	84	45	130
Obstetricians and Gynecologists	987	1,169	2.30	23	13	35
Pediatricians, General	1,196	1,422	2.36	28	15	44
Surgeons	4,969	5,915	2.38	118	63	182
Physicians and Surgeons, All Other	10,244	12,198	2.38	244	130	375

TOTAL	38147	44805	830	460	1,294
Difference		6,658			

When considering the cost for implementing a new medical school, it is important to balance the need for physicians against the need for other professions that are key players in providing quality healthcare to Florida residents. Moderate to fast growth is projected for most of the allied health professions, with registered nurses being in greatest demand. The projected demand for registered nurses far outpaces the demand for physicians (3.14 percent annual change) with an increase of 35,254 openings by 2012, and 7,158 average annual openings due to growth and separation. Florida public university nursing programs denied admission to over 2000 qualified applicants in 2005 due to inadequate enrollment capacity.

7. The proposal identifies existing medical school programs (private or public) that exist in the state, identifies the institution(s) and geographic location(s), and provides data that supports the need for implementing an additional program.

The proposal identifies on page 22 the four allopathic (UF, USF, UM, and FSU) and two osteopathic (Nova Southeastern and a branch of Lake Erie College) medical schools that currently exist in Florida, as well as their geographic location. The proposal cited data presented to the BOG in January 2004 that Florida ranks 37th nationally in allopathic school enrollment, 12th in osteopathic enrollment, and 37th overall in medical school enrollment per 100,000 population, and that ultimately the State would need to add about 4,500 students total (in both allopathic and osteopathic medical education) to meet the national ratio of medical students per 100,000 population. The proposal notes that although more than 2,000 Floridians sit for the MCAT, there are only 342 seats available in Florida's public medical schools, and 457 total public and private combined allopathic and osteopathic first year seats (for which there were 1,557 Florida applicants). The proposal also notes that expansion capacity of existing institutions will still leave the state short of the need for an additional 2,700 students total (650 first year) as discussed in the CEPRI Medical Education Needs Analysis. The proposal notes that demographic/ethnic characteristics are not reflected (19% of Florida medical school matriculants were Hispanic or African American, compared to 30% in the state's population; 31% of the state's population resides in South Florida, while only 14% of the state's medical school students are residents of South Florida). Other statistics mentioned on page 23 of the proposal include:

- 1,557 Florida residents applied to an LCME-accredited Medical School, while 700 matriculated (40.2% out of state).
- Per capita, Florida ranks 31 of 46 states with medical schools, with 500 graduates each year from state medical schools.
- Of Florida's medical school graduates, only 24% (compared to 27% nationally) enter primary care specialties.

8. The proposal contains reasonable estimates of student headcount and FTE who will major in the proposed program.

The proposal argues that there is significant student demand for enrollment in medical school, stating that in 2004 there were 1,557 Florida-resident applicants vying for the 457 total first-year seats in Florida's public and private medical schools (with 342 of those in the public medical schools). The proposal cites information provided in the CEPRI Medical Education Needs Analysis that a total of 2,700 additional students (650 first-year seats) are needed to meet comparison targets, and that expansion capacity of the existing medical schools would still result in a shortage.

On October 25, 2005, the Association of American Medical Colleges (AAMC) reported a "major increase in medical school enrollments," due to a 2.1% increase in the 2005-06 entering class over that of the 2004 total. The number of applicants also increased to 37,364 (a 4.6% increase), driven primarily by increased numbers of Hispanic (increase of 6.4%) and Asian (increase of 8.1%) applicants. It was noted in the report that 22 of the nation's 125 allopathic medical schools expanded their class size by 5% or more in the past year. Of particular interest to Florida and the immediate proposal is that two of those 7 were Florida State University (with an increase of 38%) and the University of Miami (with an increase of 14%).

Budget

9. The proposal provides a complete and reasonable budget for the program that reflects the text of the proposal. Costs for the program reflect costs associated with the implementation and operation of similar programs at other SUS institutions.

The proposal provides a complete budget outline that reflects the implementation stages as described elsewhere in the proposal. The proposed budget includes funding through a variety of sources, including E&G, contracts and grants, clinical revenue, private gifts, and tuition. Members of the hospital consortium will share their facilities, technology, and equipment with the School of Medicine. Also, UCF will take advantage of existing resources, including the medical sciences library collection, laboratories and educational space in the new health sciences buildings already under construction, and numerous well-qualified faculty. The FIU model includes the development of a faculty practice plan, which the university believes will become a significant source of funds for the Medical School (these funds are listed as "clinical" in the budget table in Appendix 2). The faculty practice plan at the University of Florida covers approximately 70% of faculty salaries, while that at the University of South Florida covers approximately 60%. It is anticipated that by Year 10, clinical income and contracts and grants will generate 61% of revenues.

The estimated costs for implementing the proposed medical school are consistent with costs for implementing the FSU medical school and estimated costs for the proposed UCF medical school. A comparison of those costs is displayed in the table below.

	Total College of Medicine	Tuition	Clinical Practice	Contract & Grant (Salary Recovery)	Existing Faculty	Existing Appropriation	Additional Appropriation	# of Students	Total per Student	Total State Appropriation per Student
FSU*	\$38,989,138	\$4,800,000	\$0	\$0	\$0	\$1,900,000	\$32,289,138	480	\$81,227	\$71,227
FIU**	\$32,229,447	\$8,737,464	\$276,688	\$2,898,563	\$0	\$0	\$20,316,732	480	\$67,145	\$42,327
UCF***	\$37,338,593	\$8,737,464	\$5,928,000	\$1,162,562	\$3,321,607	\$0	\$18,188,960	480	\$77,789	\$37,894

*per November 15, 1999 MGT study

**per September 12, 2005 FIU proposal

***per September 2005 UCF proposal

10. FBOG Table Two-M is completed in full and displays cumulative dollar estimates (as opposed to incremental increases) for both current and new resources for the proposed program for the planning years and the first ten years of enrollments in the program.

The budget table is completed and can be found (along with supplementary explanatory information) in Appendix 2. Other explanatory budget information can be found on pages 27-29. One important note is that the budget proposal includes all new hires to make up the School of Medicine faculty. Also, since the state has traditionally funded medical schools on a headcount basis, FIU equated one headcount student with one FTE student for purposes of the proposal (which may impact the cost per FTE in comparison with other proposals).

Projected costs derived from information provided in the proposal includes:

- \$257,256,700 Accumulated Total Cost to State by Year 10 (includes recurring and non-recurring state appropriations for planning years through Year 10, \$20 million in PECO funds already committed by the state for a biomedical research facility that will be part of the medical school building complex, and \$20 million in state match for anticipated private contributions)
- \$20,316,733 Annual Operational Cost to State at Year 10

11. For existing resources within the institution that will be shifted to support the new program, the proposal provides an explanation as to which resources will be shifted and describes actions that will be taken to mitigate any adverse impacts caused by such a shift.

The proposal states that “no shifting of resources within the University is contemplated at this time,” as “the proposed School of Medicine will be developed only if special appropriations or new allocations are made.” The proposal indicates that all faculty members (both new general revenue and contracts & grants) would be new hires.

12. The proposal identifies financial resources available outside the institution (businesses, industrial organizations, governmental entities, etc.) and provides evidence of any commitments that will be available to support the proposed program (gift, monetary donation, in-kind

contribution, land, a building, etc.).

The proposal cites federal resources, business support, and private donations and pledges. Through a consortium, the university will share existing facilities, technology, and equipment of existing hospitals to support the clinical education component. Up to \$2 million in federal matching funds from the National Institutes of Health would be available for construction of animal handling facilities to support an expanded biomedical research program. Opportunities for federal funding include approximately \$30 million to bolster the national capacity to educate underrepresented minority students in the health professions. It should also be noted that the NIH awarded approximately 75% of its \$22.24 billion in grants for 2004 to medical schools, \$188,224,080 of which was provided to allopathic medical schools in Florida.

With regard to business support, the proposal indicates that South Florida's diverse population will make an attractive venue for clinical trials by which to obtain additional external funding. Finally, with regard to private donations, the proposal indicates that a \$10 million commitment has been made by Trustee Dr. Herbert Wertheim, and a local medical foundation pledged \$5 million in endowment monies for scholarship support upon establishment.

Projected Return on Investment

13. The proposal provides a convincing "Return on Investment" statement that describes the projected benefit (net value added) to the university, local region, and the state if the program is implemented.

Expected quantitative return on investment (as indicated in the proposal) includes:

- Economic Impact
 - A RAND study indicated that 45% of federal R&D funds to universities went directly to medical schools in FY 2002.
 - The economic yearly impact of Florida's four allopathic medical schools is \$11 billion.
 - The Washington Economic Group report (Appendix 4) forecasts the impact of a built-out FIU School of Medicine to be over three quarters of a billion dollars per year. Tables detailing that assessment are included on pages 30-31.
- Additional Physicians at lower net cost
 - The proposal states that the least costly way to increase adequately trained physicians is for the state to establish new medical schools able to sponsor large numbers of new residency programs.
 - Such programs could apply for federal support (which on average covers approximately half of residency program costs).
- Healthcare
 - Increased healthcare resources, including grant funding, can be leveraged through creation of partnerships between public medical schools, local health care providers and advocacy organizations.
- Expanded Pharmaceutical and Biotechnological Industries

Expected qualitative return on investment includes:

- The Medical School for the Community and the State
 - South Florida has a population of more than 5.3 million people
 - Miami-Dade and Broward counties have two of the largest medically underserved populations in the state (as referenced in Appendix 1 of the proposal)
- Physicians Specifically Trained to Address Local Problems
 - South Florida currently has only one allopathic medical school to meet the above needs.
 - Of the Top 25 largest metropolitan areas in the United States, only three are without a public supported university medical school, including Boston (which has three private medical schools), Miami (which has one private medical school), and St. Louis (with two private medical schools).
- Relief for Some Health Care Access and Quality Problems would be supported by:
 - Increased number of physicians in the region and state by supporting 500 new residency positions and graduating 120 new doctors each year.
 - Increased diversity of health care professionals
 - Increased educational opportunities for health professionals
 - Emphasis on local needs when educating physicians
- Improved Access to Medical Education for a Broad Range of Floridians
 - Improved access, in particular, for South Florida residents and underrepresented minorities
 - School of Medicine would be multicultural, international, and public
- Broad Spectrum of Qualitative Benefits
 - School of Medicine would provide a full array of services, community outreach, educational programs, and biotechnology investments

INSTITUTIONAL READINESS

Related Institutional Strengths and Biomedical Infrastructure

14. The proposed program specifically relates to existing institutional strengths such as programs of emphasis, other academic programs, and/or institutes and centers.

The proposal identifies several program areas at FIU that are already engaged in biomedical research with faculty who can contribute to the medical school, or support pre-medical students at the undergraduate levels. FIU intends to vertically and horizontally integrate all health and medical education programs to develop a comprehensive program based on community-based health services, and the proposed medical school would offer joint-programming with the schools of nursing and public health.

A Faculty Curriculum Integration Committee will be established to identify opportunities for interdisciplinary education, as well as enhance undergraduate pre-professional advising and a seamless transition between undergraduate and graduate curricula, restructure upper division programs to maximize common education experiences (and continuing involvement in the health priorities of the community), and as an advisory body to the Honors College on the development

of a pre-medical track. Synergy would also derive from potential joint faculty appointments and dual-degree programming. Relevant programs and institutes/centers are included below.

15. The proposal identifies existing biomedical infrastructure and research doctoral programs that will facilitate the medical program in its efforts to obtain full accreditation, and describes how these programs will be affiliated with or integrated into the proposed medical school.

The proposal indicates that the program will be built upon the strong foundation of basic sciences, allied health, biomedical research, and University center and institute initiatives. To that end, the university noted that the following programs are university strengths on which the proposed medical program will build (highlights of these programs are provided on pages 35-38 of the proposal):

- The Department of Biological Sciences
- The Department of Chemistry and Biochemistry
- The Department of Physics
- The Department of Psychology
- The School of Computer Science
- The Department of Biomedical Engineering
- The Center for Advanced Technology and Education
- The Stempel School of Public Health
- The School of Nursing
- The Department of Dietetics and Nutrition
- The Center on Aging
- The School of Social Work
- The Health Services Administration Program

16. The proposal provides evidence of existing instructional or research facilities and other resources (e.g., library volumes, serials, specialized equipment, etc.) that will be used to initiate the program.

Some facilities necessary for implementation of the proposed program were recently completed or are currently under construction. These buildings include the Health and Life Sciences I (houses Departments of Dietetics and Nutrition, Physical Therapy, Occupational Therapy, and Communication Sciences, as well as public health and biological science laboratories), and II (houses the Stempel School of Public Health, School of Nursing, and some research and training activities for the Department of Biological Sciences) buildings, and additional resources that will support implementation of the program exist within the various colleges and units noted previously. The facilities mentioned above contain biomedical research laboratories, offices, conference rooms, and teaching laboratories, and will each support faculty with joint appointments in or conducting joint research with faculty members of the School of Medicine.

The proposal included an appended assessment of the FIU library resources that are available to the School of Medicine. The FIU library materials budget would require supplemental funding

of approximately \$400,000-\$500,000 to acquire a core collection and augment the current holdings in fields allied to medicine. The assessment of the core collection was based primarily on the standard guide for the field, the Brandon/Hill Selected List of Print Books and Journals for the Small Medical Library. However, the Brandon/Hill method may be problematic for ascertaining exact figures necessary to establish a core curriculum, as its paper-format prices do not account for online collections, and it tends to exaggerate the size of a core collection for any but the largest medical libraries. With regard to the journal literature determined to be necessary to establish a core medical school collection, the proposal indicated that FIU has:

- 60% of the overall core journals in the Brandon/Hill lists
- 55% of the core journals in the small medical library category (77 of 141 titles)
- 72% of the core journals on the Nursing Book List (62 of 86 titles)
- 58% of the core journals on the Allied Fields list (46 of 79 titles)

FIU also formally assessed two of the other collections allied to medicine against the citation-ranked literatures, with faculty review of the assessments for purposes of informing the library's long-range planning, and is conducting further assessments in other fields. Those include:

Chemistry

- Core journal literatures comprise 466 titles in 7 fields, of which the library has 39% (or 181)
- Of the 285 not currently in the collection, Chemistry recommended 59 be acquired
- 33 of those acquisitions were recommended as high-priority with a total annual cost of \$32,000, and the remaining 26 would have a total annual cost of \$24,300.
- Pending acquisition of the latter, FIU's "complete" Chemistry collection would have a total of 51% (240 of 466 titles) of the total citation-ranked literature. That acquisition would cost approximately \$56,000 annually in total.

Nursing

- Core journal literatures comprise 284 titles in 8 fields, of which the library has 61% (or 173)
- Of the 111 not currently in the collection, Nursing recommended 24 be acquired
- Pending acquisition of those titles, FIU's "complete" Nursing collection would have a total of 70% (198 of 284 titles) of the total citation-ranked literature. That acquisition would cost approximately \$8,000 annually in total.

Biology

- Core journal literatures comprise 1,343 titles in 21 fields, of which the library has 46% (or 619)
- The University has not yet requested that the program make recommendations for collection-development priorities

Finally, the proposal notes that such assessment for the medical library will "require careful grounding in the FIU curriculum" as the "core literatures of Medicine are spread over 32 fields, comprising 1,864 titles. The proposal also notes that at this stage in the planning process, FIU is in a position to assess the sciences and allied health collections against those necessary for and relevant to the yet-to-be-established curriculum. The proposal does not present exact numbers for the total holdings of the FIU libraries (e.g., volumes, books, journals, online holdings, etc.), but instead focuses on the specific holdings necessary to support a medical library.

Once the construction of the University's law school is completed, the Green Library will have over 15,000 sq. ft. of space dedicated for a temporary library for a School of Medicine (until a permanent medical library is constructed as part of the School of Medicine building).

17. The proposal identifies additional facilities and resources that will be required for the initiation of the medical program and identifies any new capital expenditure for instructional or research space that is required, indicating where the item appears on the university's fixed capital outlay priority list. The provision of new resources is reflected in the budget table (FBOG Table Two-M), and the sources of funding indicated.

The proposal identifies the additional facilities and resources that will be needed to implement the medical program, beginning on page 40. The information provided is as follows:

Additional Capital Construction

- FIU intends to build a medical school complex, for which the initial facilities will cost \$64 million. Of that \$64 million, funds include:
 - \$20 million (already committed by the state in PECO funds for a biomedical research facility)
 - \$20 million in private donations
 - \$20 million in state match
 - \$4 million in grant funds for a biomedical education and research facility
- It is anticipated that additional program growth will be supported by additional construction for research and graduate education activities (approved by the last Educational Plant Site Survey Team in 2000-01, currently listed as 5th on FIU's approved capital project list).

Additional Instruction and Research Equipment

- FIU has budgeted \$7.5 million for equipment and furnishings for the proposed medical school complex, and the cost of instructional equipment is included in the furniture/equipment budget.
- Any additional funding that may be necessary for research equipment or research animal handling facilities will be sought through federal grant-based mechanisms.
- Some relevant equipment will be purchased through start-up funds budgeted for new faculty (\$500,000 in start-up funds for each basic science faculty member has been budgeted).

Additional Library Resources

- As noted in the above section, the current FIU library budget would need to be supplemented by \$500,000 annually (\$200,000 to go to the core and \$300,000 to go to periodical literature) to acquire the necessary core collection and augment the current journal collection.

Additional Information Technology Resources

- Recurring funds of \$1.2 million will be necessary to increase the technology infrastructure.
- The above funds would provide for wireless, secure connections, with access to the Internet as a communication medium to remote databases, forums, and online course materials. Clinical faculty, students at remote sites, other health science faculty, and students/faculty

undertaking cooperative work would also have access to materials and data via this method.

Additional Fellowships, Scholarships, Graduate Assistantships, and Tuition Waivers

- \$125,000 for each Medical School class for fellowships and scholarships
- The fellowship/scholarship funds above will be restricted to students who commit (under penalty of repayment) to practice primary care specialties in Florida for as many years as they received the scholarship funds. This is intended to address the shortage of primary care physicians in the state. Data gathered from the American Medical Association Masterfile (presented in the CEPRI Medical Education Needs Analysis) indicated that the number of allopathic physicians in Florida practicing primary care falls below the national average.

Curriculum

18. A description of the planned curriculum is provided that clearly indicates whether the university expects to offer a traditional course of study, or a course of study that in substantial ways differs from traditional medical education. Any special areas of emphasis within the proposed program are adequately described. Resources that will be used to develop a sequenced course of study are identified, and the total numbers of credit hours for the degree are within the range associated with similar programs at other institutions.

The proposal describes a professional program in allopathic medicine that will consist of a 4-year, 156 credit hour curriculum designed to integrate medical education and interdisciplinary research opportunities provided by the other colleges of the University, and to “utilize existing community-based resources in order to educate culturally sensitive physicians who will serve the South Florida region.” FIU’s program will utilize a community health and patient-based model focusing on an integrated curriculum and collaborating with four of the five largest community hospitals in Miami. The proposed program will “vertically and horizontally integrate all of its health and medical education program curricula into a comprehensive program,” in contrast to traditional medical programs in which the education of health professional (and each specialty and clinical training function) is self-contained.

The Dean and the faculty of the School of Medicine will be responsible for curriculum planning for the program, including establishment of expected learning outcomes, finalization of curriculum design, and preparation of a sequenced course of study. The curriculum will follow LCME general requirements. Although medical school curricula can vary between institutions, some items are generally instituted in medical schools across the nation, including:

- 37 weeks of instruction for 1st year curriculum; 36 weeks for the 2nd year; 46 weeks for the 3rd year; and 35 weeks for the 4th year
- 3rd and 4th year students devote their time to clinical clerkships and electives in clinical institutions, for which the average length of the clerkship varies (details are provided on page 43)
- A portion of the clerkship is spent in ambulatory care settings.

A typical core curriculum is presented on page 43. Program elective offerings are selected by the institution. In the case of FIU's proposed program, all graduates would be expected to communicate in both Spanish and English.

19. Admission standards and graduation requirements for the program are consistent with existing law, state university system policies, and university policies.

An Admissions Committee will set admissions standards and select candidates. Admissions standards will include, at a minimum:

- Successful completion of at least one year each of college-level Biology, Physics, English, and Chemistry
- Science GPA of 3.5 or higher
- Medical College Admissions Test (MCAT) (Although some institutions do not include this requirement, all of Florida's existing allopathic colleges currently do, and FIU intends to include an MCAT requirement unless the Medical School Admissions Committee makes a policy decision to eliminate it.)

Other Expected Skills, Attributes, and Evaluative Data

- Candidates should be able to perform all essential functions of a medical care practitioner in the South Florida region (i.e., should be able to develop skills requiring the abilities of observation, communication in English and Spanish, gross and fine muscular movement coordination, functional use of touch and vision senses, and the ability to synthesize and apply complex information).
- Social and behavioral attributes (e.g., compassion, integrity, interpersonal skills)
- Interviews by admissions committees and qualified faculty will assess non-academic factors.
- Breadth/difficulty of undergraduate coursework
- Letters of evaluation
- Involvement in extracurricular activities
- Involvement in and quality of health-related research
- State/county legal residence

The proposal does not address utilization of the American Medical College Application Service (AMCAS), which is a centralized non-profit application processing service for applicants to participating U.S. medical schools, as part of the application process. AMCAS is used by most U.S. medical schools as the primary application, and the service is currently utilized by all of the existing allopathic medical schools in Florida as part of the application process.

Graduation requirements include:

- Candidates must have reached the age of 21 and, per law, be of good moral character.
- Completion of the following requirements (and thus, mastery of all associated student learning outcomes):
 - Enrollment for at least 4 years as full-time medical student with satisfactory completion of all required work and examinations
 - Receipt of acceptable scores on the United States Medical Licensing Examination (Step I

must have been taken between second and third year, and Step II must have been taken any time during the fourth year, prior to graduation)

- Passage of an Objective Structured Clinical Examination during the senior year
- Certification in Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS)
- Satisfactory record of all procedures performed in junior and senior years
- Discharge of all financial obligations to the institution
- Satisfaction of all requirements of the Student Health Service

A faculty committee will determine, based on academic performance, completion of creditable research, and other characteristics, students who merit the receipt of a Degree with Honors. A degree of the Doctor of Medicine with Distinction in Research may also be awarded for those students who satisfy rigorous requirements, as established by the University Graduate School. Graduates will be admitted unconditionally to take the United States Medical Licensing Examination, which any individual wishing to obtain a license to practice medicine must pass.

20. A timeline is provided for seeking LCME accreditation that identifies specific benchmarks that will need to be met.

A timeline for achieving LCME accreditation is provided on page 46 that identifies specific benchmarks for the process from November 2005 (BOG Approval) through September 2013 (full accreditation). Securing Legislative funding, the first and second LCME visits, Appointment of the School's Dean, and the first and second accreditation visits are all anticipated to take place in 2006, with provisional accreditation being awarded in 2007, the first class to enter in 2008, the first class to graduate in 2012, and anticipation of full accreditation to take place in 2013.

21. The proposal identifies any new research doctoral programs that will need to be implemented in order to obtain full accreditation.

The proposal indicates that no additional research doctoral programs will need to be implemented for the FIU School of Medicine to achieve full accreditation. The proposal indicates that a number of research doctoral programs currently offered by the University will support the interdisciplinary/integrated medical program in its efforts to obtain full accreditation including Ph.D. degrees in Biomedical Engineering, Physics/Biophysics, Chemistry/Biochemistry, Microbiology/Molecular Biology/Human Biology, Nursing, Public Health, Public Administration, Dietetics & Nutrition, Computer Science/MIS, Psychology, Social Work, Sociology, and Special Education.

22. The anticipated delivery system for the proposed program is consistent with other plans for implementation of the medical program as it may relate to institutional resources (e.g., traditional delivery on main campus or at branches and centers; clinical sites; and joint-use facilities for research or internships).

Medical students, from early in the first year, will be in contact with patients in many different

settings (e.g. ambulatory, hospital, long-term care, and community). Most of the teaching will take place in small groups (with the basic sciences subjects being taught in current and new facilities at the University), and much of the clinical teaching will take place in physicians' offices or in affiliated community health centers or hospitals that comprise the Consortium (detailed beginning on page 49). In one model of medical education (which about 53 medical schools have adopted), medical schools build and utilize their own university hospitals to train their students. However, due to cost, complexity of the healthcare market, and potential opposition of local healthcare organizations to that option, FIU did not feel that model was a viable option for clinical care teaching. Rather, it chose to utilize a partnership/affiliation model, which relies on affiliation between the School of Medicine and local health organizations owned and operated by different agencies. The latter model is suited to FIU due to the high number of quality, technically sophisticated institutions interested in partnering with FIU.

The hospital consortium mentioned above includes primary institutions Mount Sinai Medical Center and Miami Children's Hospital, whose staff members have been active participants in the feasibility planning for this proposed School. The proposal indicates that those institutions have agreed to support the development of, and actively participate in, the operation of the proposed program. The proposal indicates that Mercy Hospital has also participated in the planning, and both it and Baptist Health South have expressed interest in participating in the consortium. Discussions have been initiated to also add a fifth member, the Health Choice Network.

Medical Residency Programs

23. The proposal provides a detailed plan regarding development of medical residency programs, particularly those in Florida, to accommodate program graduates. Potential locations are identified and any existing commitments and agreements are properly documented.

FIU's goal is to assist in the development of 500 new residency positions in the region through expansion of the residency programs at the main affiliate hospitals (Mount Sinai and Miami Children's) and development of new residency programs at hospitals and clinics in the community that have expressed an interest in doing so under the sponsorship of FIU. Faculty members from the FIU School of Medicine would direct the programs, and primary care clinical training sites are also planned for Miami-Dade, Broward, and Palm Beach Counties.

The proposal indicates that funding for the programs is expected to be primarily from Medicare resources, and states that, if federal funds are unavailable at the time of implementation, indirect costs of the programs will need to be financed with hospital resources. However, the proposal does not address potential difficulties in obtaining Medicare/CMS funding, and also does not indicate the process by which hospital resources would be secured or include a commitment statement from the relevant hospitals to that end. With regard to direct educational costs, FIU has included in its budget the following:

- A proportion of time of each clinical faculty member (who will also have specifically allocated time for medical student education, clinical practice, and research) to provide education for residents, estimated at 1 FTE clinical faculty for every 5 residents.
- Resources to expand hospital libraries and cover educational needs (found as part of library

- budget and operational expenses)
- Liability insurance and employment benefits of residents
- Development of specific necessary educational electronic resources (found in information technology portion of the budget)

A timeline for development of graduate medical education is provided on page 52. It commences with the development of an Office of Graduate Medical Education (responsible for applying for accreditation as an institutional sponsor to the Accreditation Council for Graduate Medical Education), appointment of a Director of Graduate Medical Education, and development of clinical training sites for primary care residencies in 2006, and continues through expansion of existing and development of new residency programs, and planning of incorporation of residency programs at other institutions into the network to take place from 2010 to 2016.

The proposal makes the argument that area hospitals would benefit from affiliation with the FIU School of Medicine due to the additional number of faculty and quality of faculty development that would become available, stating that “one reason for the shortage of graduate medical education positions in Florida is that some hospitals lack sufficient numbers of qualified faculty and educational experience.” Affiliation with a medical school would also help to bolster continuing education/professional opportunities. The proposal also states that a medical school at FIU would be instrumental in helping increase the physician board certification rates of the hospitals and community in general.

The proposal references commitments from hospitals in the region to expand existing residency programs (Mount Sinai and Miami Children’s), although letters and/or statements from the hospitals to that end are not included in the proposal. In addition, the proposal mentioned Mercy Hospital in the residency timeline as one where new residency programs may be developed, however, with regard to “other important hospitals and clinics in the community” that expressed an interest in developing new residency programs, no specific hospitals are mentioned in the discussion of residency programs (although Baptist Health South and the Health Choice Network were both mentioned as potential members of the Consortium earlier the proposal).

Assessment of Current and Anticipated Faculty

24. A reasonable estimate is provided for the number of faculty needed to implement the medical program, each faculty member's workload (in percent person-years) that will be devoted to the proposed program by the fifth year of implementation, their areas of specialization, their proposed ranks, and when they would be hired.

While the overall numbers provided in the table on page 60 (in response to question VIII B) and in the budget table reflect a reasonable estimate for the number of faculty needed for implementation, there appears to be a discrepancy between the figures provided in those tables and those provided in Table Three-M, beginning on page 53. According to the information provided in Table Three-M, beginning on page 53, only 103 new faculty hires (rather than the 116 indicated on page 60) would have been made through Year 5 (2012), and that table does not include information on faculty to be hired on contracts, grants, or voluntary basis.

However, the budget table in Appendix 2 does provide a schedule of the numbers in each category to be hired, and thus does account for the anticipated numbers of faculty (although it does not provide the specialty information included in Table Three-M). No narrative is provided regarding the assessment portion of the faculty section of the proposal, which may have served to explain any discrepancies. Overall, the proposal indicates that there will be 482 total faculty members in the 5th Year (116 New General Revenue and 366 New Contracts & Grants) and 638 in the 10th Year (158 New General Revenue and 480 New Contracts & Grants). All faculty for the proposed School of Medicine will be new hires. There are also sections of the proposal (such as on page 40 and 61) that reference potential joint appointments between other programs at the University and the proposed School of Medicine.

25. The proposal provides a convincing plan and timetable for the recruitment of medical school faculty that identifies any challenges that might make recruitment difficult (e.g., new school, need to seek accreditation, medical malpractice policies, etc.), areas of expertise that may constitute a special challenge for recruitment, and strategies to overcome such challenges.

The proposal outlines a plan to recruit faculty that begins with hiring a Dean, who with his or her department chairs, will ultimately be responsible for determining the composition of, selecting, appointing, and supervising the School of Medicine faculty (consistent with LCME accreditation standards). The faculty will be chosen through a comprehensive, national-search process, and selected on the basis of appropriate credentials and experience. Advertising will take place in professional publications, and will follow the usual procedure of search committees that will make recommendations to the medical school authorities for new appointments. FIU feels that the newness of the school will enhance recruiting. Faculty salary scales have been set at the 60th to 65th percentile range to further enable recruiting efforts. The proposal also indicates that the Dean may also find that current FIU faculty members may have taught in medical education programs in the past, express an interest in doing so again as joint appointments.