



SPECIAL BOARD MEETING

Wednesday, February 10, 2010

9:00 a.m.

Conference Call

Call-in Number: (888) 207-9997 Password: FAU Owls

Contact No.: 561-297-3450

-
- I. Call to Order and Roll Call Trustee Nancy Blosser, Chair
 - II. Consider A Proposal to Transition to an
Independent Medical Education Program at FAU Dr. John Pritchett, President
 - III. BOT Member Comments Trustees
 - IV. Public Comments
 - V. Adjournment



Item: II

Special Board Meeting
Wednesday, February 10, 2010

SUBJECT: INDEPENDENT MEDICAL EDUCATION PROGRAM

PROPOSED BOARD ACTION

Approval of FAU proposal to the Board of Governors (BOG) to establish an FAU medical education program.

BACKGROUND INFORMATION

At the January 2010 meeting, the Board of Trustees approved abrogation of the academic affiliation agreement governing the management and operation of the University of Miami Miller School of Medicine (UMMSM) Regional Medical Campus at FAU. The BOT also authorized the President to develop a proposal to establish an independent FAU medical education program for consideration by the Board of Governors at its March 2010 meeting. Approval of the FAU proposal by the Board of Governors, and subsequent authorization by the Legislature, will enable FAU to grant the M.D. degree and collect medical tuition.

Key components of the FAU Proposal are as follows:

MD Program:

- Inaugural class starting in 2011; total enrollment of 246 reached by 2014
- MD degree program built on strengths of the existing FAU regional medical campus curriculum
- Dual MD/PhD degree option w/MD conferred by FAU; PhD conferred by Scripps
 - 15% of each medical class ultimately enrolled in MD/PhD program.
 - MD/PhD program will help Florida meet the critical shortage of physician-scientists required to: (a) grow the state's biomedical science research and business/industrial sectors; and, (b) assure an adequate number physician-scientist faculty for Florida's medical schools.
- Continued Expansion of New Residency Programs

Strategic Bioscience Research Partnership Between FAU, Scripps and Max Planck Institute:

- Collaborative, interdisciplinary and integrated research programs in biomedical science, bioinformatics, bioengineering and biotechnology.
- Research component of the Institute will be a world-class center for innovation, and scientific discovery, sparking economic development for the region and state
- Collaborative research initiatives will provide strong base for increased federal funding opportunities in basic, emerging, and translational research programs for FAU.
- Interdisciplinary research enterprise will enable FAU to attract the highest quality graduate and postdoctoral students and build FAU's reputation as a premier destination for training in the biomedical sciences.

IMPLEMENTATION PLAN/DATE

Pending BOG approval in March, Legislative authorization during the 2010 session, and preliminary accreditation by the Liaison Committee on Medical Education (LCME) by October, 2010, FAU will have all necessary authorizations to admit a charter medical class in 2011.

FISCAL IMPLICATIONS

The FAU regional campus medical education program has already been fully funded by the Legislature. The proposal commits FAU to operating the medical education program with no increase in general revenue. Operating revenues from contracts and grants, clinical practice and community donations have been extremely conservatively estimated by design in the proposed budget in order to clearly demonstrate that current general revenue funding and projected tuition revenue are sufficient to operate the FAU medical education program. However, it is anticipated that the Scripps Partnership will result in research grant funding and private gifts and donations to FAU that significantly above the levels in the proposed budget.

Florida Board of Governors Request to Establish a New Medical School

Florida Atlantic University
University Submitting Proposal

2011
Proposed Implementation Date

Medicine 51.1201
Academic Specialty or Field
(Include Proposed CIP Code)

Doctor of Medicine
Complete Name of Degree

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial commitment and the criteria for establishing a new medical program will be met prior to the initiation of the program.

Chairman, Board of Trustees

Date

President

Date

Vice President for Academic Affairs

Date

ENROLLMENT AND COSTS SUMMARY

In the tables below, provide headcount and full-time equivalent (FTE) student estimates of majors for years one through five. Headcount and FTE estimates should be identical to those in FBOG Table 1-M. Calculate a cost per FTE for years one, five, eight and ten (Education and General Funding divided by FTE). Indicate the program costs for planning years and the first, fifth, eighth and tenth years of implementation (from FBOG Table 2-M and Narrative). Include capital costs for new facilities in the appropriate column and code them as "S" for state funds and "N" for non-state funding.

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</i> <i>N = Non-State</i>
Planning Year 1						
Planning Year 2						
First Year	64	64	\$198,012	\$12,672,795	\$100,000	S= 0; N=0
Second Year	128	128				
Third Year	192	192				
Fourth Year	246	246				
Fifth Year	246	246	\$51,515	\$12,672,795	\$320,000	S=0; N=0
Eighth Year	246	246	\$51,515	\$12,672,795	\$410,000	S=0; N=0
Tenth Year	246	246	\$51,515	\$12,672,795	\$410,000	S=0; N=0

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal in order to ensure that all sections have been satisfactorily addressed.

INTRODUCTION

Background:

This Florida Atlantic University (FAU) proposal is fundamentally different from any previous proposal to create a new medical education program submitted for approval to the Board of Governors (BOG), or the predecessor Board of Regents (BOR). The differences are as follows:

1. The medical education program that is described in this application is an existing program, not a proposed program, in which 127 medical students are currently enrolled.
2. The Legislature has already appropriated \$14.4 million to fund the FAU four year medical education program for its full enrollment. Although appropriated funds have been reduced to approximately \$12.67 million by state budget cuts, **FAU will seek no increase in general revenue funding to support the independent FAU medical education program.**
3. FAU has substantiated, and the BOG (and the BOR) have concurred that unmet demand existed for access to undergraduate medical education opportunities in Southeast Florida on two prior occasions: in 1999 when the BOR approved FAU's request to plan a 2 year medical education program on the FAU campus in partnership with the University of Miami (UM) medical school, and again in 2005, when the BOG approved expansion of the two year FAU medical education program to a full four year medical curriculum. By approving the University of Central Florida College of Medicine and the Florida International University College of Medicine in 2006, the BOG acknowledged that an unmet demand for medical education **still existed** in Southeast Florida and the state as a whole, even after creation of the FAU regional medical campus.
4. Existing facilities on the FAU campus can accommodate the independent FAU medical education program.
5. The FAU medical education program underwent comprehensive scrutiny by the Liaison Committee on Medical Education (LCME) during the February, 2009, accreditation review of the UM School of Medicine. In the LCME accreditation team site visitors' report released in October, 2009, the LCME found the FAU regional medical campus to be "well-conceived and implemented" and cited the FAU regional medical program as one of the five strengths of the University of Miami medical school. These recent, highly favorable, LCME findings related to the FAU regional medical campus program suggest that the LCME's response to FAU's application for accreditation of the independent FAU medical education program will also be favorable.
6. FAU, working in collaboration with UM, has already begun to fulfill the commitment it made to the BOG in 2005, to use the FAU regional medical program as the catalyst to begin residency training programs in the FAU service area. In 2008, the first allopathic residency program in the region began in internal medicine. The program is sponsored by UM in affiliation with the FAU regional medical campus. MOUs have been signed with Boca Raton Community Hospital, The Tenet System, The

Cleveland Clinic, Florida and Holy Cross Hospital, indicating their intent to offer FAU sponsored residency programs in such areas as internal medicine, surgery, pediatrics and obstetrics/gynecology.

Opportunity for a New FAU Partnership with The Scripps Research Institute:

The FAU medical education program was originally conceived as a partnership between FAU and the University of Miami School of Medicine (UM).

In January, 2006, FAU, UM and Boca Raton Community Hospital (BRCH) entered into an affiliation agreement to govern the management, funding and operation of the UM regional medical campus at FAU. At the time that this original affiliation agreement was executed, BRCH intended to build a new teaching hospital on the FAU campus. In summer, 2008, BRCH informed FAU and UM that it wished to terminate its affiliation because of financial challenges that would require it to indefinitely postpone construction of its hospital. Although BRCH's withdrawal from the affiliation agreement was the initial impetus for renegotiating the terms of the affiliation agreement between UM and FAU, FAU welcomed the opportunity to evaluate how the partnership has functioned, with the benefit of three years of experience in actual implementation, and to determine whether the partnership has fulfilled the expectations and best interests of FAU.

During the period of time that FAU was negotiating with UM concerning the terms and conditions of the new UM-FAU affiliation agreement, FAU leadership was approached by the Scripps Research Institute, Florida with a proposal for a new partnership between FAU and Scripps to create the **Scripps-FAU Biomedical Science and Technology Institute**. The Institute would have two major components:

- **Creation of an independent FAU Medical Education Program** - that will build on the strengths of the existing FAU regional medical campus curriculum and which will also have a proposed joint MD/PhD degree option in which a minimum of approximately 15% of each FAU medical program entering class is ultimately anticipated to enroll. The MD degree will be conferred by FAU. The PhD degree will be conferred by the Scripps Kellogg School of Science and Technology, a school whose graduate programs are continually ranked among the top five-seven in the nation. PhD coursework and research activities will occur on the FAU Jupiter Campus, where the Scripps Research Institute's Florida campus is located.
- **A strategic bioscience research partnership between FAU, Scripps and Max Planck Institute, Florida** - to conduct collaborative, interdisciplinary and integrated research programs in biomedical science, bioinformatics, bioengineering and biotechnology that will constitute the next phase in the realization of the Southeast Florida bioscience cluster that the state envisioned when it recruited the Scripps Research Institute to Florida. FAU will develop new components of its Colleges of Science and Engineering on the Jupiter campus and develop a formal strategic partnership with Scripps Florida and the Max Planck Institute, Florida. The research component of the Institute will be a technological powerhouse and will become a center for innovation, sparking economic development for the region through scientific discovery. Collaborative research initiatives will provide a strong base for increased federal funding opportunities in basic, emerging, and translational grant programs. The varied and interdisciplinary offerings of the research enterprise will attract the highest quality graduate and postdoctoral students and build the Institute's reputation as a world-class destination for research training. The Institute's integrative approach to discovery will foster close collaborations with industry and facilitate development of innovative diagnostics and therapeutics. These discoveries will lead to more efficient and cost-effective delivery of healthcare services to the public and have a profound and transforming impact on the practice of medicine.

Consultants' Findings Related to the Economic Impact of an Independent FAU Medical Education Program and the FAU-Scripps Research Institute Partnership:

Regional medical campuses, particularly those with four year curricula, are relatively new phenomena. It has been only very recently that any comprehensive national studies have been conducted evaluating the history and effectiveness of regional medical campuses and the relative impact that they have as compared to the "parent" medical school. FAU engaged Dr. Michael Whitcomb to conduct an assessment of the evolution and status of the UM-FAU medical education partnership and the affiliation agreement governing the operation of the FAU regional medical campus. Dr. Whitcomb, who until recently served as the Senior Vice President for Medical Education at the Association of American Medical Colleges, is considered a national expert on regional medical campuses and has authored several definitive studies documenting the challenges and advantages associated with the regional campus model.

FAU also engaged the services of the Pittsburgh based research firm, Tripp Umbach, to conduct two separate studies. The first study quantifies the economic impact of the FAU-UM regional medical campus to FAU, the region and the state and compares this impact to that of an independent FAU medical education program. The second Tripp Umbach study evaluates the economic impact of the proposed FAU-Scripps strategic partnership to create the Institute for Biomedical Science and Technology.

The findings and conclusions of the two Tripp Umbach studies are discussed more fully in Section IV., below, and full copies of all three studies may be found in Appendices 1, 2, and 3. The summary findings of the three studies are as follows:

Whitcomb Evaluation:

- FAU is following the typical pattern for US four year regional medical campuses. Regional medical campuses naturally evolve into independent medical education programs as they develop their own history, curricula, administrative practices, and research initiatives, all of which progressively create a unique identity for the regional campus that is distinct from the parent medical school.
- An independent FAU medical education program will have a significantly greater positive impact on the evolution of FAU as a comprehensive, research-intensive university than will the continued existence of the current UM-FAU regional medical campus relationship.

Tripp Umbach Study: Return on Investment of the UM-FAU Regional Medical Campus vs. An Independent FAU Medical Education Program:

- The economic impact of the UM-FAU regional campus is comparable to other regional campuses around the country. As is typical, the FAU-UM regional medical campus does not have the economic and research impacts associated with the main campus of the UM medical school.
- Overall, an independent FAU medical education program would have roughly **six times** the economic, employment, government revenue and research impact of a regional medical campus.

Tripp Umbach Study: Return on Investment of the FAU-Scripps Partnership:

- Within 5 years, the overall economic impact of the FAU-Scripps Research Institute Partnership to the State of Florida will be \$144.8 million – a ten fold return on the state's \$14.4 million dollar investment in the independent FAU medical education program.

Action by the FAU Board of Trustees

After extensive discussion with The Scripps Research Institute, and consideration of the consultants' findings about the implications of continuing the UM-FAU partnership, the FAU Board of Trustees has determined that the partnership proposed by the Scripps Research Institute offers significant advantages for students, the Florida physician workforce, the Florida biotechnology research sector and FAU's biomedical science research enterprise that are not afforded by continuation of the partnership with UM. These advantages include:

- The opportunity for FAU to partner with the Scripps Kellogg School of Science and Technology, a school whose graduate programs are continually ranked among the top five-seven in the nation, to confer a dual MD/ PhD that will have unparalleled national and international recognition.
- The FAU/Scripps MD/PhD program will produce physician scientists who are preeminently prepared to understand and apply cutting-edge scientific research findings and state-of-the-art technologies to the practice of modern clinical medicine.
- Expedited production of such physician scientists is an essential prerequisite to Florida's goal to become a nationally and internationally recognized leader in biomedical science research.
- Establishing an independent FAU medical education program will enable FAU to continue to honor its commitment to meet Florida's physician workforce needs, while significantly reducing the cost of their medical education for students, who will pay Florida public medical school tuition. FAU regional medical campus students who are Florida residents currently pay UM tuition, which for FY 2009-10 is approximately \$8,000 higher than the average in-state tuition charged by Florida public medical schools.
- Creation of the FAU-Scripps partnership will create greatly enhance opportunities for research collaborations between FAU and Scripps faculty, thereby enhancing FAU's ability to compete nationally for the most qualified faculty, graduate students and research funding.

On January 20, 2010, the FAU Board of Trustees voted to terminate the affiliation agreement with UM and directed FAU President John Pritchett to proceed with development of the necessary application materials required for FAU to gain the authority from the Board of Governors that is required to enable FAU to establish an independent medical education program.

Transition From UM Partnership:

FAU is committed to cooperating with UM to ensure that UM students enrolled in the FAU regional campus program have an orderly transition into the UM Miami campus program. UM students may

continue to be enrolled in the regional campus program during the 2010-11 academic year if this is necessary to minimize disruption to their academic progress. A committee comprised of equal numbers of UM and FAU representatives is being created to oversee the transition period.

Authority Sought by FAU From the Board of Governors:

1. Authority to grant the MD degree; and
2. Authority to collect medical tuition at the average SUS rate

I. Program Description and Relationship to System-Level Goals

- A. Briefly describe 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.**

Students applying to the FAU medical education program will be eligible to be admitted to one of two tracks: the FAU MD program or the FAU-Scripps MD/PhD program.

The FAU Medical Education (MD) Program

The MD education program will be provided in the existing facilities on the Boca Raton Campus with the MD degree conferred by FAU. FAU medical program class size will be limited to 64 students annually, with the inaugural class beginning study in 2011.

Because of the demonstrated quality and strength of the four year Continuity Medicine Curriculum (CMC) currently being offered on the FAU regional medical campus, FAU proposes to keep the core components of the CMC curriculum in place for students pursuing the FAU MD degree. The distinctive characteristics of CMC are summarized below, and described more fully in Section VI A.

Distinguishing Characteristics of the FAU Continuity Medicine Curriculum:

- Provides smaller, more personal, more individualized and more interactive learning environment
- Fosters and values collaboration between basic and clinical science, among medical specialties and between academic medicine and community health-care professionals
- Uses patient-centered, problem-based and self-directed learning
- Is organized around learning communities of approximately eight students each who share and learn from each others' patients and clinical experiences
- Emphasizes continuity of care, patient safety and comprehensive, chronic disease management
- Provides early introduction of clinical training in multiple community-based hospital and outpatient settings

- The FAU Medical Simulation Center enables students to use state-of-the-art high-fidelity mannequins to learn and apply their diagnostic skills in the context of evidence-based medicine and systems-based care

Although only in its third year, the FAU Continuity Medicine Curriculum has already been demonstrated to be highly successful:

The FAU CMC curriculum has been recognized by the Association of American Medical Colleges (AAMC) for its innovation. In 2006-07, the FAU regional medical campus was among only ten U.S. medical schools, including Vanderbilt and UCLA, to receive an AAMC grant, to facilitate implementation of curricular emphasis on comprehensive chronic disease management.

The first cohort of FAU regional medical campus students to sit for Part 1 of the United States Medical Licensing Examination (USMLE), which all students are required to take at the end of their second year of medical school, scored in the top 95th percentile of all U.S. medical students sitting for the exam.

The FAU regional medical campus program was also identified by the LCME as one of the specific strengths of the UM School of Medicine in the LCME accreditation site visitors' report released in October, 2009.

The FAU-Scripps MD/PhD Program

In addition to offering the MD degree, FAU proposes to offer a dual MD/PhD program option in partnership with the Scripps Institute Kellogg School of Science and Technology. The PhD program will be offered on the FAU Jupiter Campus, where the Scripps Institute Florida Campus is located. The PhD degree will be conferred by the Scripps Kellogg School of Science and Technology.

It is anticipated that 15% (10 students) in each class will be admitted to the dual MD/PhD program. The dual MD/PhD program will be designed to be an accelerated degree in which the fourth year of the medical curriculum, which is comprised largely of clinical sub-internships and electives, is integrated with the first year of the PhD program, thereby enabling students to complete the medical component of the dual degree in three, rather than four years.

Consequently, by the end of the third year of the independent FAU medical education program, and each year thereafter, 15% of each medical program entering class will complete the medical education program and total FAU medical program enrollment will be 246.

Some modifications will be made to the first three years of the FAU medical curriculum for those students entering the MD/PhD program. The most significant modification will be to organize the medical students admitted to the MD/PhD program into one or more special learning communities that are mentored by both a clinical and basic science faculty member. Case-based and problem-based learning for these students will have a greater emphasis on the scientific context of the diseases under discussion and students will be required to do a more extensive review of the applicable scientific

literature. Other curricular modifications for medical students in the MD/PhD program that will be explored include summer research projects and guest lectures by Kellogg School faculty.

Residency Programs:

When FAU proposed expansion of the two year regional medical education program to a full four year medical education curriculum, FAU committed to using the FAU regional medical campus as a catalyst for creating allopathic residency programs in the FAU service area and adjoining counties. Creating residency programs in this densely populated area of the state was a high priority because there were no allopathic residency training opportunities in any county north of Dade County, up through the Treasure Coast area and across the state to the Southwest Coast.

Highest priority has been placed on the creation of residency programs in the core medical primary care specialties of general internal medicine, general surgery, pediatrics and obstetrics/gynecology. Establishment of these core residency programs is a prerequisite for the creation of other residency programs in the medical and surgical specialties.

Only one year after enrolling the charter class in the four year FAU regional medical education program, the first allopathic residency program in the FAU service area began. This program, in general internal medicine, which is sponsored by the UM in affiliation with the FAU regional medical campus, will produce the first cohort of new internists in summer, 2011.

Planning is actively underway to begin residency programs in internal medicine, surgery, pediatrics and obstetrics/gynecology within the next several years at Boca Raton Community Hospital, Holy Cross Hospital and Tenet system hospitals in the region.

Other hospitals in the region have also expressed a strong interest in offering residency training programs including The Cleveland Clinic, Florida. Planning is continuing to identify the role that this facility can play in further expansion of residency training opportunities in the region.

The goal is to ultimately create a total of approximately 250-300 residency and fellowship positions in the FAU region that are affiliated with FAU.

Memoranda of Understanding (MOUs) have been signed between FAU and Boca Raton Community Hospital, the Tenet Hospital System, the Cleveland Clinic, Florida and Holy Cross Hospital that indicate these facilities' intent to offer residency programs sponsored by FAU. These MOUs are provided in Appendix 4.

B. Briefly describe how the proposed program is consistent with the University Mission and Strategic Plan Goals. Which of the goals will the program support directly, and which goals will it support indirectly?

The institutional goals included in the FAU 2006-2013 Strategic Plan that will be directly supported by the proposed independent FAU medical education program and the FAU-Scripps partnership to create The Biomedical Science Research and Technology Institute are as follows:

FAU Strategic Plan Goal 1: Providing Increased Access to Higher Education:

The Strategic Plan commits FAU to continuing to provide access to higher education for residents of the region, the state and the nation in response to the competitive economic environment by increasing the number of degrees granted to students at all levels. Specific attention is to be devoted to increasing graduate enrollments in degree areas targeted by the Board of Governors. As is discussed in Section C., below, the SUS Strategic Plan establishes degree production targets in several areas, one of which is Emerging Technologies in Medical Science and Health Care, which includes the MD degree and degrees in the biomedical sciences.

FAU Strategic Plan Goal 3: Building World-Class Academic Programs and Research Capacity:

The Strategic Plan commits FAU to developing academic and research programs of the highest caliber to support Florida's strategic engagement in building an economy based on high technology and to foster a culture enriched by scholarly inquiry. The specific objectives that support this goal are:

- Increase significantly the University's total research expenditures to expand and enhance national and international recognition of FAU's academic and research programs.
- Significantly increase the University's federal research expenditures to expand and enhance national and international recognition.
- Increase scholarly contributions, service and efforts to promote technology transfer, licensing agreements, and entrepreneurship by the faculty.

The partnership between FAU and The Scripps Research Institute will expand opportunities for FAU faculty in the Colleges of Science, Biomedical Science and Engineering to collaborate with faculty in the Scripps Kellogg School of Science and Technology in the conduct of interdisciplinary and integrated research programs in biomedical science, bioinformatics, bioengineering and biotechnology. These collaborative research enterprises will, in turn, enhance the national and international stature of the FAU faculty, enabling them to more successfully compete for major federal grant funding and extramural funding from other sources.

C. Briefly describe how the proposed program is consistent with the State University System Strategic Plan Goals. Which of the goals will the program support directly, and which goals will it support indirectly?

The 2005-2013 SUS Strategic Plan adopted by the Board of Governors in June, 2005, established specific, measurable system-wide goals related to: access to and production of degrees, meeting statewide professional and workforce needs, and building world-class academic programs and research capacity.

The Strategic Plan provides that the establishment of new doctoral and research programs will be encouraged, when such programs meet specified criteria. These criteria and the manner in which the proposed independent FAU medical education program meets these criteria are summarized below.

Criterion: The Proposed Program is Consistent with Statewide Goals and Institutional Mission

Creation of the independent FAU medical education program is consistent with the SUS strategic plan goals listed below. Consistency with FAU's institutional mission and strategic plan is discussed fully in B., above.

- Increase Access and Production of Professional and Doctoral Degrees
- Meet Statewide Professional Workforce Needs in Targeted Programs of Critical Need/
Medical Science and Health Care
- Build World Class Academic Programs and Research Capacity
- Achieve National Recognition for Institution's Academic and Research Programs
- Meet Community Needs and Fulfill Unique Institutional Responsibilities

Criterion: The Proposed Professional Degree Program Is In A Targeted Field

In 2001, an Advisory Group on Emerging Technologies was created to engage in a multi-year project that involved the identification of SUS degree programs that support emerging technologies and which prepare graduates for employment in targeted employment areas identified as being important to economic development in Florida. These targeted employment areas are included in the 2005-2013 SUS Strategic Plan as "Areas of Strategic Emphasis" for SUS degree production. One of these areas, under the category of "Emerging Technologies in Medical Science and Health Care", is the MD degree (CIP 51.1201). The BOG established a degree production target of 1,774 degrees per year in this area, which includes biomedical science, veterinary medicine, dentistry and pharmacy, as well as medicine.

Criterion: The Proposed Program is in Demand By Students and Employers, Especially in the Context of Economic Development

As is discussed more fully in Section II A., below, Florida has consistently ranked between 35th and 37th nationally in terms of the number of allopathic medical students per 100,000 state population. Florida needs to increase allopathic medical school enrollment by 2,675 students to meet the national average ratio of medical student per 100,000 state population. Although creation of the UCF, FIU and

UM-FAU regional medical campus is projected to increase Florida allopathic medical school enrollment by a total of 1,150 students when these three schools reach full, planned enrollment, the state will still have a deficit of approximately 1,525 fewer medical students than required to meet the national ratio of medical students to population.

Even though Florida has significantly expanded public medical school enrollment in the past decade, demand for access to public medical education in Florida remains strong. In 2008, there were 22 applicants competing for every available medical school seat. National data also indicates that the qualifications of Florida students who apply to medical school and are accepted are competitive with national averages.

Qualifications of Medical School Applicants and Matriculants 2008

Qualifications	U.S.		Florida	
	Applicants	Matriculants	Applicants	Matriculants
Composite MCAT Score	28.1	30.9	26.7	30.2
Science GPA	3.4	3.6	3.4	3.6
Overall GPA	3.5	3.7	3.5	3.7

Source: AAMC

Multiple studies of the US physician workforce, including studies conducted by the American Medical Association and the Association of American Medical Colleges, have predicted that the U.S. will face a physician shortage of between 125,000 and 160,000 physicians by 2025 unless the production of new physicians increases sharply.

Demand for access to medical care will continue to grow in Florida at a rate that may exceed the national rate. Although the state's population actually declined slightly in 2009 for the first time in over five decades, the decline is tied closely to the national economic downturn, which has affected Florida more negatively than many other states. Florida's population is expected to begin to grow again as the national economy stabilizes and the state's population is expected to reach approximately 19.6 - 20.0 million by 2020. In 2008, 17.4% of Floridians were over 65 compared to 12.8% of the Nation's population, and the percentage of Floridians over 65 is projected to continue to grow. As the state's population ages, demand for medical care will grow concomitantly.

The dual MD/PhD degree offered through the FAU-Scripps Research Institute partnership has every potential to become one of the most prestigious and highly competitive programs in the nation. The physician scientists who graduate from this program will play a pivotal role in the expansion of biomedical science research and technological innovation in Florida, as well as providing the next generation of medical school faculty who are trained in the biomedical sciences as well as in clinical medicine. The occupational forecast and demand for individuals with MD/PhD degrees is discussed more fully in Section II B., below.

Criterion: The Proposed Program Will Facilitate FAU's Establishment of World Class Academic Programs and Research Capacity

In addition to the degree production goals in targeted areas that are established in the SUS Strategic Plan, the BOG has established the building of world class academic programs and research capacity within the SUS as an over-arching goal. Creation of the FAU-Scripps Biomedical Science and Technology Institute, with the dual components of an independent FAU medical education program with a prominent MD/PhD option and a collaborative, interdisciplinary, integrated research initiative in biomedical science, bioinformatics, bioengineering and biotechnology, will dramatically increase FAU's national standing as a leader in basic and translational biomedical research and as an innovator in medical education.

D. Provide 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.

As evidenced by the list of milestone summarized below, many of the key activities required for the establishment of the independent FAU medical education program have already been achieved.

MILESTONES IN DEVELOPMENT OF THE FAU MEDICAL PROGRAM

FY 1998-99	BOR authorizes FAU to proceed with feasibility planning for a "Medical Education Partnership" with UM medical school; Legislature appropriates first \$500,000 planning funding to FAU.
FY 1998-99	Schmidt Family Foundation donates \$15.0 M to construct Charles E. Schmidt Biomedical Science Center; and for endowment to support FAU biomedical science faculty; gift agreement specifies that facility is to be used to house FAU biomedical science program and regional medical campus program; Legislature matches \$15.0 M gift
FY 1999-2000	Legislature begins to appropriate phased-in funding to build core biomedical science program at FAU required to support UM regional medical campus program at FAU.
2001	UM and FAU sign MOU to establish 2 year medical education program at FAU.
2002	Charles E. Schmidt Biomedical Science Center completed. Florida Board of Education approved FAU's request for implementation authorization for "Partnership for Quality Medical Education."
FY 2004-05	Full funding of \$4.4 M for FAU biomedical science program reached.
2004	First class of 16 students admitted to two year UM regional medical campus program at FAU.
Spring, 2005	BOG authorizes expansion of FAU regional medical campus from 2 to 4 year program.

FY 2005-06	Legislature appropriates additional funding to FAU to expand regional medical campus program from 2 to 4 years.
Jan., 2006	UM, FAU and Boca Raton Community Hospital sign Affiliation Agreement
May, 2007	Final class completes 2 year regional medical campus program and returns to UM Miami campus for years 3 and 4.
AY 2007-2008	Charter class of 32 students begins 4 year FAU regional medical campus program.
FY 2008-09	Full funding (\$14.4 M) for 4 year FAU regional medical campus program achieved.
2008	First new residency program affiliated with FAU regional medical campus begins
AY 2009-10	FAU regional medical campus enrollment reaches 127 students; charter 4 year program class begins 3 rd year clinical clerkships
Feb., 2009	LCME accreditation team visits FAU regional medical campus as part of UM medical school accreditation process; 10/09 LCME report cites the FAU regional medical campus as one of five UM medical school strengths.

A timeline for completion of the remaining key activities that are required for implementation of an independent FAU medical education program is provided below.

TIME LINE FOR FULL IMPLEMENTATION OF THE INDEPENDENT FAU MEDICAL EDUCATION PROGRAM

1/20/2010	FAU BOT abrogates FAU-UM Affiliation Agreement and approves pursuit of BOG approval for independent FAU medical education program and BOG authorization for FAU to award the MD degree and collect MD tuition.
2/2010	FAU BOT approves FAU BOG application.
2/2010	FAU application submitted to BOG.
3/18/2010	BOG approves FAU's request to grant MD degree and for related tuition authority.
2-3/2010	FAU representatives conduct consultation visit to LCME Secretariat staff to discuss plans for independent FAU medical education program and potential to modify/accelerate database submission process and site visit schedule leading to preliminary accreditation
3-5/2010	FAU develops supporting materials as identified during LCME Secretariat consultation

6/2010	Legislature authorizes and Governor approves legislation creating independent FAU medical education program.
6/2010	FAU submits application for preliminary accreditation to LCME.
6-8/2010	LCME site visit occurs
10/2010	LCME grants preliminary accreditation to FAU medical education program.
10/2010	FAU begins to recruit applicants for charter medical education program class.
7/ 2011	Charter class begins.
2011-2012	FAU updates and submits database and self-study/progress report to LCME.
7/2012	Second class begins FAU medical education program.
2012-2013	FAU updates and submits database and self-study/progress report to LCME. Limited LCME site visit occurs mid-point of second academic year.
6-10/2013	LCME grants provisional accreditation to FAU medical education program.
7/2013	Third class begins FAU medical education program.
2013-2014	FAU updates and submits database and self-study/progress report to LCME.
2013-2014	LCME grants full accreditation to FAU medical education program.
5/2014	First class admitted to dual MD/PhD program completes MD curriculum and begins PhD
7/ 2014	Fourth class admitted to FAU medical education program.
5/ 2015	Charter class graduates from FAU medical education program.

INSTITUTIONAL AND STATE-LEVEL ACCOUNTABILITY

II. Assessment of Need and Demand

- A. **What national, state, or local data support the need for more people to be prepared as medical doctors? (This should include national, state, or local plans or reports that support the need for this program; demand for the proposed program which has emanated from a perceived need by agencies or industries in your service area; and summaries of prospective student inquiries.) Indicate potential employment options for graduates for the program.**

The Adequacy of the Current Florida Physician Workforce

Over the past decade the adequacy of Florida's physician workforce has actually declined. According to AAMC state physician work force data, in 1998, Florida ranked 10th nationally in terms of the number of physicians per 100,000 state population. By 2008, Florida's nationally ranking had dropped to 19th. Although the decline in the adequacy of Florida's physician workforce may be attributed to multiple factors, one of the most significant problems that Florida continues to face is the aging of its physicians. In 2008, according to the 2009 AAMC State Physician Workforce Data Book, 27% of all active Florida physicians were 60 or older and only 15% were under 40, placing Florida 8th nationally in terms of the age of its physician workforce. Unless Florida takes aggressive steps to ensure that it can replace its retiring physicians, the ratio of physicians to the state's population will become even more unfavorable.

Continued Need for More Access to Medical Education

Data from the Association of American Medical Colleges (AAMC) presented to the BOG in 2004, during deliberations concerning requests by UCF and FIU to establish two new public medical schools, indicated that Florida ranked 37th nationally in terms of the number of allopathic medical students per 100,000 state population. In 2004, Florida needed to increase allopathic medical school enrollment by 2,675 students to meet the national average. The recently released 2009 AAMC State Physician Workforce Data Book indicates that as of 2008, despite the creation of the UCF, FIU and UM-FAU medical education programs, Florida's national ranking, in term of allopathic medical students per 100,000 U.S. population, has increased by only one percentage point to 36th place.

Increasing opportunities for individuals to attend a public medical school in Florida has a direct impact on the state's physician workforce. Florida is more successful than the nation in retaining physicians who graduate from Florida medical schools. The 2009 AAMC State Physician Workforce Data Book indicates that as of 2008, 52% of Florida's active physicians graduated from a public Florida medical school (as compared to the national retention rate of 42%), placing Florida 8th nationally in terms of the percentage of the active state physician workforce who graduated from a public medical school in the same state where they practice.

Deficits in GME Training Opportunities

Even more than medical schools, residency programs have a direct impact on the size and specialty

mix of the physician workforce in their communities because physicians tend to establish their practices within a 75-100 mile radius of where they complete their residency training.

Studies conducted by multiple national and state organizations have consistently demonstrated that Florida ranks above the national average in terms of the percent of Florida residency program completers who remain within the same community where they complete GME training to enter practice. The recently released 2009 AAMC State Physician Workforce Data Book indicates that as of 2008, 59% of the physicians who completed their residency training in Florida remained in Florida to establish their medical practices (compared to the national GME retention rate of 45%), placing Florida 4th nationally in terms of retention of residency program completers in state practice.

The retention rate for individuals who complete both medical school and residency training in Florida is even higher, at 75%, placing Florida 7th nationally in terms of the percentage of active physicians who completed both medical education and residency training in the same state where they practice.

Despite the critical link between an adequate access to residency and fellowship training and an adequate supply of physicians, Florida ranks 45th nationally in terms of allopathic residency positions per 100,000 state population. Florida needs to add a total of approximately 2,700 new MD residency positions to meet the national average ratio of residency positions per 100,000 state population. Because of the shortage of Florida residency program opportunities, most physicians practicing in Florida received their residency training outside of the state. Only approximately 35% of the physicians practicing in Florida completed a Florida residency programs. Nationally, approximately 45% of the physicians practicing in a given state completed residencies in that state. This difference is partially due to the lack of residencies within the state.

Despite the pronounced need for more Florida residency training programs, few new programs have been created in Florida or nationally because of a cap placed on Medicare funding for residency training in the federal Balanced Budget Act of 1997 (BBA). The Medicare program is the largest explicit source of funding for residency and fellowship training. The 1997 cap effectively freezes the number of residents that are eligible for Medicare direct and indirect graduate medical education funding to the numbers in residency programs as of December 31, 1996. As a result of the 1997 Medicare funding caps, the growth in the capacity of Florida's residency programs has been very modest between 1997 and 2007 and the approximately 261 new residency positions created constitute only 10% of the additional 2,700 allopathic residency program slots the state needs to add to meet the national ratio of residency training positions per 100,000 population. Only 24 of the new residency positions created between 1997 and 2008, when the JFK internal medicine residency program opened, are in Southeast Florida.

The Medicare funding caps do not apply to hospitals that have never had residency programs. Because there have been no allopathic residency programs in the FAU six county service region, hospitals in the region that establish residency programs are eligible for Medicare GME funding. The availability of Medicare GME funding provided a major incentive to JFK Medical Center when it affiliated with the FAU Regional Medical Campus to create the new UM-sponsored internal medicine residency program that opened in Palm Beach County in 2008. Other area hospitals, including Holy Cross Hospital, Boca Raton Community Hospital and regional Tenet system

hospitals, which are probable locations for the next residency programs to be created in affiliation with the FAU medical education program, will also be eligible for Medicare GME funding.

It is imperative that additional residency programs capacity be created in Southeast Florida at the same time that additional medical school capacity is created in order to ensure that FAU medical education program graduates have an opportunity to remain in the area to complete residency training. Because of the strong link between where physicians complete residency training and where they subsequently establish practice, it is highly likely that a majority of the FAU medical education program graduates who complete residency programs in Southeast Florida will either remain in Southeast Florida to practice or practice somewhere in Florida.

B. If similar programs (either private or public) exist in the state, identify the institution(s) and geographic location(s) and provide data that supports the need for an additional program.

The Independent FAU Medical Education Program

There are currently five public allopathic medical schools in Florida:

- The University of Florida College of Medicine in Gainesville
- The University of South Florida College of Medicine in Tampa
- Florida State University College of Medicine, with a main campus in Tallahassee
- The University of Central Florida College of Medicine in Orlando, and
- The Florida International University College of Medicine in Miami

The University of Miami Miller School of Medicine is the only private allopathic medical School in the state, with a main campus in Miami and a regional campus located on the Boca Raton Campus of FAU.

At its August, 2002 meeting, the Florida Board of Education approved FAU's request for implementation authorization for "Partnership for Quality Medical Education," the term then in use for the proposed 2 year FAU-UM regional medical education program that subsequently accepted its first class in 2004. The Legislature authorized implementation of the FAU-UM medical education partnership in proviso language included in the 2002 Appropriations Act (Item 166T). In 2005 the Board of Governors approved the expansion of the FAU regional medical campus curriculum from a 2 to a 4 year program and the Legislature appropriated the first of four years of incremental funding to support the expansion of the FAU regional medical campus to a 4 year program. The first class was admitted to the 4 year FAU regional medical campus program in 2007.

By approving and funding the creation of a four year UM-FAU medical education program at FAU in 2005, the BOG and Legislature acknowledged that a need for continued access to medical education still existed in the state, generally, and in Southeast Florida, specifically, even after creation of the FSU medical school in 2000.

By approving the FIU College of Medicine in Miami in 2006, the BOG acknowledged that an unmet demand for medical education in Southeast Florida **continued to exist**, even with the existence of

the UM main medical school campus in Miami and establishment of the FAU regional medical campus in Boca Raton.

With the creation of the FSU medical school and the UM-FAU regional medical program, Florida has been able to achieve a modest improvement in its national ranking in term of total (allopathic, osteopathic, public and private) medical school enrollment per 100,000 state population, rising from 37th place in 2004 to 36th place in 2008. Although creation of the UCF and FIU medical schools is projected to increase Florida allopathic medical school enrollment by a total of 960 students when these two schools reach full, planned enrollment, the state will still have approximately 1,700 fewer medical students than required to meet the national ratio of medical students to population and Florida's continues to rank 40th in the nation in terms of public medical school enrollment per 100,000 state population.

The FAU MD/PhD Program

MD/PhD programs are designed to produce physician-scientists who have been trained to form synergies in their experimental and clinical thinking. This ability enables physician-scientists to recognize new ways that clinical care can benefit from research. Similarly, the synergy achieved in dual-degree training enables the physician-scientist to understand how the results of research discoveries can be converted into clinically significant outcomes. Physician-scientists are needed so that the achievements of basic science laboratories and other focused research efforts can be translated into active clinical practice. Recent AAMC studies have shown that the MD/PhD physician scientist is more successful in developing research programs that are nationally funded than either the PhD or MD scientist, attesting to the quality of students pursuing the dual degree and the training that these students obtain.

The majority of graduates of MD/PhD programs go on to become faculty members at medical schools, universities and research institutes such as the National Institutes of Health (NIH), where they conduct their careers doing research and caring for patients.

Producing more MD/PhDs to enter the ranks of medical school faculty is particularly important in light of growing concerns by organizations such as the AAMC, the Council on Teaching Hospitals (COTH) and the Association of Academic Health Centers (AAHC) about a severe shortage of medical school faculty. Medical schools, which were already experiencing difficulty recruiting qualified faculty, have been even more challenged by the recent national move to expand medical school enrollment. The national movement in medical curriculum reform, much of which is focused on expanding content related to evidence-based medicine and enhancing physicians' ability to understand and incorporate clinical research findings into their practice, has further increased demand for faculty with MD/PhD degrees.

Despite the growing demand for physician-scientists with MD/PhD degrees, the AAMC estimates that the percentage of U.S. physicians with PhDs is actually declining, down from slightly less than 5% two decades ago to only 2% today. The cadre of American physician scientists is also aging. Since the mid-1980's, the percentage of total NIH research project grants awarded to MD/PhD investigators who are younger than 50 has been steadily declining. Several reasons are cited as

possible reasons for this decline, including the length of time required to complete the MD/PhD degree, which can be as long as 9-10 years, and the cost associated with completing two consecutive advanced degrees.

FAU is partnering with the Scripps Kellogg School of Science and Technology to design a dual MD/PhD program in which the fourth year of the medical curriculum, which is traditionally comprised largely of sub-internships and electives, is integrated with the first year of the PhD program, thereby enabling students to complete the medical component of the dual degree in three, rather than the traditional four years, further increasing the attractive of the Scripps MD/PhD program.

In order to address the high cost to students of MD/PhD programs, most programs pay candidates stipends and/or tuition scholarships during the training years. The extent of this support varies significantly among programs, however.

One of the major sources of financial support for students pursuing MD/PhDs is the NIH Medical Scientist Training Program (MSTP). The MSTP currently has 40 participating programs involving 45 degree-granting institutions with a total of 933 trainees.

MSTP grants are made to universities and their medical schools, which are responsible for program operation and trainee selection. About 170 positions for new students are available nationwide each year. Awardee institutions also support additional students using funds from other sources. Selection for admission is highly competitive. For those selected, the program provides a maximum of 6 years of support, although an individual's course of study for the combined degree may take somewhat longer. All institutions identify other sources of support for a trainee's additional years of study. Trainee support provided by an MSTP grant includes a stipend, tuition allowance and a modest sum for travel, equipment, and supplies. Many institutions supplement the basic stipend provided by the MSTP with institutional funds or other grant funds. Continued support for an individual student is subject to annual renewal based on the trainee's satisfactory performance in the program and the institution's successful competition for funds at the time of grant renewal every three to five years. Since MSTP grants are a type of National Research Service Award, trainees must be citizens or noncitizen nationals of the United States or must have been lawfully admitted for permanent residence (i.e., possess an alien registration receipt card I-151 or I-551). Trainees incur no payback obligation.

Florida has relatively few MD/PhD programs compared to other large states. California and Texas each have eight programs, New York has 12 programs and Pennsylvania has six programs. There are currently only three MD/PhD programs in Florida which are located at the University of Florida, the University of South Florida and the University of Miami. Although enrollment varies significantly in each program from year to year, the total enrollment in all three programs is approximately 40-45 students annually, or 3% of these three schools' total medical school enrollment.

None of Florida's three medical schools that offer the MD/PhD degree currently participate in the MSTP. However, UM waives medical student tuition for all students participating in their MD/PhD program. UF has recently instituted a policy that waives medical student tuition for a quarter to a third of the students in their MD/PhD program. Students in the USF MD/PhD program pay full

medical school tuition.

FAU and Scripps Research Institute believe that the dual FAU-Kellogg MD/PhD degree will be among the strongest and most prestigious programs in the nation, capable of successfully competing among the existing U.S. programs for the strongest, most gifted and highly motivated candidates. The goal to have 15% of each medical school class (ten students) enter the MD/PhD program can be achieved in large part because of the unparalleled reputation and national stature of the Scripps Research Institute and the Kellogg School of Science and Technology.

FAU plans to apply to become an MSTP institution, enabling students in the MD/PhD program to receive federal NIH funding for partial medical tuition support. FAU will seek additional funding for medical tuition support from other federal and private organizations and foundations, as well as providing institutional funding to support students during the MD component of the dual degree. The objective will be to subsidize all, or as large a percentage as possible, of the medical tuition costs for FAU students while enrolled in the MD portion of the dual degree.

FAU and Scripps Research Institute also plan to apply to become a consortium member of the NIH's Clinical and Translational Sciences Award (CTSA) program. Currently, the consortium comprises 46 medical research institutions in 26 states. In 2009, the University of Florida became the first Florida institution to receive a CTSA grant. When fully implemented by 2012, 60 institutions will be linked together to energize the discipline of clinical and translational science. Among the kinds of programs that CTSA grants may be used to fund, and which are particularly supportive of the goals of the FAU-Scripps Institute for Biomedical Research and Technology are: (a) pilot and collaborative translational and clinical research projects that allow clinical and translational trainees or researchers to: generate preliminary data for submission of a research grant application; seek to improve clinical design, biostatistics, clinical research ethics, informatics or regulatory pathways; develop new technologies; or activities defined by the applicant; and (b) funding for graduate degree-granting and postgraduate programs in clinical and translational science. Centers, departments or institutes are eligible for funding to train investigators from diverse disciplines, including medicine, in areas such as clinical research design, epidemiology, biostatistics, pharmacology, biomedical informatics and engineering.

Financial support for students during the PhD component of the dual degree will be provided by Scripps Research Institute, the student's advisor and national fellowships. This support covers the student's stipend and the cost of education (tuition and benefits). The stipend for academic year 2009/2010 has been set at \$27,000. The stipend is subject to change based on cost of living increases and national competitiveness. A stipend supplement will be extended to graduate students who have secured a fellowship from external sources. Typically, the supplement is \$3,000 above the base stipend. Thus, with a current base stipend of \$27,000, students who secure fellowships can anticipate a total stipend of \$30,000. If the fellowship of a student-in-good-standing ends prior to graduating, and the fellowship has provided financial support for a minimum of two years, the supplement will be continued until the student graduates. However, if the amount of the external fellowship exceeded the stipend/supplement amount, the student's stipend shall return to the current base stipend plus supplement amount; i.e., a \$32,000 fellowship shall be set at \$30,000.

- C. Use FBOG Table One-M to indicate the number of students (headcount and FTE) you expect to enroll in the proposed program during each of the first five years of implementation and years eight and ten, categorizing them according to primary source. In narrative supporting Table One-M, the rationale for enrollment projections should be provided and the estimated headcount-to-FTE ratio explained. For an existing partnership program, provide the history of applications to date, i.e., the number of fully qualified applied, admitted, and enrolled applicants, and how the institution will ensure an adequate supply of fully qualified applicants.

The following table provided data on the total number of applicants, number of qualified applicants, number of students interviewed, number of students accepted and number of students enrolled in each of the three years that the four year curriculum has been offered on the FAU medical campus.

Academic Year:	2007-08	2008-09	2009-10
Applications	1,207	1,159	1,159
Qualified Applicants	1,081	1,032	1,043
Interviews	198	224	216
Acceptances	107	140	109
Matriculants	32	48	47*

* 1 of the 48 students accepted for AY 2009-2010 has taken a leave of absence

- D. Indicate what steps will be taken to achieve a diverse student body in this program, and identify any underrepresented minority groups that will be favorably or unfavorably impacted.

FAU takes special pride in the diversity of its student body, faculty and staff and has made a concerted effort to attract qualified students from diverse racial and ethnic backgrounds. This commitment to diversity has produced one of the most diverse student bodies in the SUS and nation. At present, minority and international students make up more than 40% of the FAU student body, and according to U.S. News and World Report, the University ranks 28th nationally in student-body diversity (out of more than 240 schools studied). Additionally, a review of U.S. Dept. of Education data in *Diverse: Issues in Higher Education*, ranks FAU 32nd nationally in the number of Bachelors degrees conferred upon minorities. The success of FAU's efforts to recruit an ethnically and racially diverse student body is evidenced by the following comparative data for FAU and its three peer SUS institutions (FIU, UCF and USF). FAU exceeds its peer SUS institutions and the SUS as a whole in terms of the percent of the student body that is Black and exceeds the SUS and two of its three peer institutions (FIU being the exception) in terms of the percentage of the student body that is Hispanic.

STUDENT BODY RACIAL AND ETHNIC DIVERSITY FAU AS COMPARED TO PEER INSTITUTIONS AND SUS

	FAU	UCF	FIU	USF	SUS
Black	17%	9%	12%	12%	14%
White	53%	66%	19%	65%	60%

Hispanic	18%	14%	60%	13%	17%
Asian	4%	5%	4%	6%	5%
Am. Indian	<1%	<1%	<1%	<1%	<1%
Int'l/Not Reported	8%	6%	7%	4%	6%

Source: 2008 SUS Fact Books

The small class size, highly favorable faculty/student ratio and the opportunity to develop close ties to classmates and faculty mentors afforded by the small group, learning community model used on the regional campus were cited by students in the recent LCME accreditation site visit as the greatest strength of the program. Although total enrollment in the FAU medical education program will ultimately increase to 246 students, the student body will still be relatively small compared to other medical schools. The average size of new US medical schools is 400 students and older, established medical schools, including those in Florida, have enrollments that range from approximately 420 to over 550 students. The independent FAU medical education program will retain the small group, learning community model that has proven to be such an effective method of instruction and which has been evaluated so favorably by students. We believe that our relatively small size and our learning community model will continue to make the independent FAU medical education program extremely attractive to all students and will be of advantage to us in recruiting the most qualified minority applicants.

FAU has two extant programs designed to increase the percentage of students from under-represented racial, ethnic and socio-economically disadvantaged groups who pursue careers in the health professions

A Pre-Health Professions Studies Certificate is currently offered by the FAU Charles E. Schmidt College of Science. The purpose of this certificate program is to provide students with the prerequisite courses needed to enter a health professions education program (medical, dental, pharmacy, veterinary, etc) and to assist in preparing them for their admissions exams (MCAT, DAT, PCAT, etc). Academic advising for this program is provided by the Student Services Office for the Charles E. Schmidt College of Science. A certificate in Pre-Health Professions Studies is awarded to students completing 60 academic credits with a GPA of 3.0 and with 100 hours of documented, health-related community or volunteer service. Post-baccalaureate students who wish to develop a strong foundation for these health-related fields may also take advantage of the program and earn a Pre-Health Professions Studies Certificate by completing these requirements. Although the Pre-Health Professions Studies Certificate program is not specifically designed to serve students who are underrepresented in medical education, the program does provide valuable services to such students who might otherwise not be prepared or positioned to be successful applicants to medical school.

In October, 2008, FAU piloted a Healthcare Outreach Program in collaboration with the Palm Beach County and St. Lucie County public school districts. The goal of the program is to increase opportunities in the health sciences for young people in the FAU six-county service area, including underrepresented and underserved minorities. The program creates infrastructure to support a community-based initiative to encourage and develop high school students in their desire to enter health care fields and prepare them to successfully compete at the baccalaureate and post graduate levels. The program began with 20 10th grade students and will grow to approximately 200-250

students in grades 10-12. Participating students are required to attend two Saturday programs per month throughout the school year, which are offered at the FAU Jupiter campus, as well as a week long summer program on the FAU Boca Raton campus. The program curriculum focuses on four areas: (a) introduction to science and technology; (b) exposure to aspects of health professions education; (c) building students skills sets in such areas including cultural, social, ethical and human issues associated with health and disease prevention and the delivery of health care; and (d) learning, observation and communications skills.

III. Budget

- A. Use FBOG Table Two-M to display cumulative dollar estimates (as opposed to incremental increases) of both current and new resources for the proposed program for the planning years and the first ten years of enrollments in the program. In narrative form, identify the source of both current and new resources to be devoted to the proposed program.**
- B. If a special state appropriation will be required to develop and implement the program, provide this information in FBOG Table Two-M indicating the level of funding required each year until full implementation.**

The Legislature has already fully funded the UM-FAU regional medical education program. No increase in current general revenue funding will be required or sought to operate the independent FAU medical education program.

- C. If any existing resources within the institution will be shifted to support the new program, provide an explanation as to which resources will be shifted and describe actions that will be taken to mitigate any adverse impacts caused by such a shift.**

Reallocation of existing FAU resources is not required to support the independent FAU medical education program and no such reallocation is contemplated at this time.

- D. Identify financial resources available outside the institution (businesses, industrial organizations, governmental entities, etc.) and provide evidence of any commitment of external resources that will be available to support the proposed program (gift, monetary donation, in-kind contribution, land, a building, etc.).**

Contributions to the MD/PhD Program From The Scripps Research Institute:

Financial support for students during the PhD component of the dual MD/PhD program will be provided by The Scripps Research Institute, the student's advisor, and through national fellowships. This support covers the student's stipend and the cost of education. The 2009/2010 graduate student stipend has been set at \$27,000. Students who receive a competitive fellowship may be eligible for a supplement. All fees, required texts, as well as health insurance costs, will be borne by The Scripps

Research Institute

The faculty of the Scripps Kellogg School of Science and Technology includes three Nobel Laureates and 19 National Academy of Sciences members. The faculty ratio ensures that students receive individualized instruction and benefit from close working relationships with their mentors and colleagues in the laboratories. The Institute's scientific staff numbers 275, with a mix of young, talented researchers at the beginnings of their careers and more established, highly regarded senior scientific investigators. The current student body is 225, with individuals from throughout the United States and several parts of the world. Approximately 800 postdoctoral fellows continue their scientific training at the Institute, creating additional opportunities for research collaboration. The table below provides information about faculty, staff and graduate students on the Institute's Florida campus:

Scripps Research Institute Florida Campus			
Faculty	Research Associates	Graduate Students	Technical & Support Services Employees
64	75	18	158

The Kellogg School's newly designed academic program offers students the opportunity to select one of five curricular tracks, including chemistry, chemical biology, biophysics, biology, and immunology, each having required coursework and suggested electives. Students, in consultation with their advisor and committee, may collectively customize their elective curriculum as well. The required courses ensure that students in each track have a common educational background, as well as a solid foundation from which to build. The electives accommodate individual flexibility, enabling students to diversify their scientific studies and explore areas of interest at a much greater depth of understanding.

The Scripps Research Institute has just opened a new 350,000 square foot, \$187 million facility on the FAU Jupiter Campus which will be used as the permanent home for The Scripps Research Institute's Florida-based biomedical research and education programs. The two laboratory buildings previously occupied by Scripps Florida will now be used to house Max Planck Society scientists while their permanent facilities are constructed next to Scripps Florida. Ultimately, these buildings will revert to FAU for science education.

Contributions to the Program From Hospital Affiliates:

JFK Medical Center, Bethesda Memorial Hospital and Boca Raton Community Hospital have each had to make a significant financial investment in their respective facilities in order to comply with LCME requirements for educational space in clinical training sites. The table below summarizes the educational space that each hospital has provided, either through renovation of existing space or

construction of new space, to support the FAU regional campus integrated clerkships. JFK Medical Center already has fully implemented electronic medical records and BRCH and Bethesda Memorial Hospital are implementing electronic medical record systems in phases.

EDUCATIONAL AND MEDICAL STUDENT SUPPORT SPACE PROVIDED BY AFFILIATED HOSPITALS

Hospital Affiliate:	Library	Lecture or Conference Rooms	Study Areas	Computers	Call Rooms	Shower or Changing Area	Lockers
BRCH	X	X	X	X	X	X	X
JFK	X	X	X	X	X	X	X
Bethesda	X	X	X	X	X	X	X

Contributions to the FAU Medical Simulation and Training Center:

FAU has created two simulation centers that are used to train regional medical campus students, medical residents and other licensed health professionals in FAU service area. The first Simulation Center, which is located in the FAU Research Park on the Boca Raton Campus, is described more fully in section V.5. FAU is also in the process of developing a second Medical Simulation and Training Center which is located on the campus of St. Mary's Hospital in North Palm Beach County. This facility will be used to train medical students as well as residents in the several new Palm Beach County residency programs that are being planned. Health care professionals will also train at the FAU-St. Mary's Simulation Center. The Palm Healthcare Foundation has been a major contributor to the St. Mary's Medical Simulation Center and St. Mary's Hospital has also helped to support creation of this second simulation facility.

The table below summarizes financial contributions that have been made by external organizations to equip both of the FAU Medical Simulation and Training facilities.

COMMUNITY CONTRIBUTIONS TO FAU MEDICAL SIMULATION AND TRAINING CENTERS

FAU Research Park Simulation & Training Center		
Organization	Contribution	Value
JFK Medical Center	Medical Equipment	\$ 25,000
Bethesda Memorial Hospital	Medical Equipment	\$ 10,000
Boca Raton Dept. of Fire Rescue	Ambulance	\$ 50,000
Quantum Foundation	Harvey Mannequin	\$100,000
FAU St. Mary's Hospital Campus Simulation & Training Center		
Palm Healthcare Foundation	Medical Equipment	\$350,000
	Facilities Upgrades	\$350,000

	Free 5 year Lease	\$250,000
St. Mary's Hospital	Medical Equipment	\$ 7,500
Academy of Practical Nurses And Health Care Providers	OB/GYN Mannequin	\$ 25,000
Total Contributions:		\$1,167,500

V. Projected Return on Investment

Provide a narrative "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. The projected benefit should be both quantitative and qualitative in nature, with a clear distinction made between the two in the narrative. If possible, quantitative data referenced in the narrative should also be provided in a tabular format. At a minimum, this section should address the provision of more medical school graduates, medical residency opportunities, and ultimately more physicians in Florida.

Return on Investment in an Independent FAU College of Medicine:

Return on Investment of an Independent FAU Medical Education Program Versus the UM-FAU Regional Medical Campus:

In March 2009, Florida Atlantic University retained the services of the Pittsburgh-based research firm Tripp Umbach to develop customized models that calculate the economic, employment and government revenue impacts associated with the current and future operations of the UM-FAU regional medical campus compared to the impacts that would result from the establishment of an independent FAU medical education program (see Appendix 2 for full report). The model also assessed the economic and social value of the current UM-FAU regional campus model, as contrasted to an independent FAU medical program, in terms of improvements to state and community health, resulting from increased production of physicians and medical research activities. To calculate the relative economic impact of the current

regional medical campus versus an independent FAU medical program, Tripp Umbach used a methodology derived from the original set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area. Tripp Umbach also obtained raw and secondary data from Florida Atlantic University. The data used to calculate the economic impact of the UM-FAU regional medical campus on the state of Florida and Southeast Florida reflect only the impact of the regional campus and do not include numbers for staff, faculty and other operational impacts employed by the main campus of the school of medicine based in Miami. In estimating the economic impact of the UM-FAU regional campus model versus an independent FAU medical program, Tripp Umbach assumed that the cuts to the state appropriation that support the regional medical campus would not be restored and that the resulting reduction in regional campus enrollment from the planned 64 to the current 48 students per class would be continued. In calculating the economic impact of an independent FAU medical program, it assumed that the class size would be 64 students per class. Enrollment at this level can be supported with current general revenue and tuition, which FAU would have the authority to collect under the independent FAU medical program model. Currently, UM collects and retains all tuition collected from students matriculating on the FAU regional campus.

The categories of economic impact that are compared and their definitions are as follows:

Business Volume Impact - includes: (a) spending by the medical school for capital improvements, goods and services, the spending of staff and faculty, the spending of medical trainees, and the spending (external to the institution) of visitors to the proposed school (direct business volume impact), and; (b) indirect business volume impact derived from the direct, first-round expenditures, which will be received as income by businesses and individuals in the state and recirculated through the economy in successive rounds of re-spending. The end result is a multiplied economic impact that is a linear result of the school's presence and its spending patterns.

Overall Employment Impact - includes: (a) total full-time equivalent employees (direct employment impact), and (b) the additional jobs created as a result of the institution's economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, creating an employment multiplier (indirect employment impact)

Government Revenue Impact - includes; (a) direct tax payments made by an institution to a unit of government (direct governmental revenue impact); and (b) government revenue that is collected by governmental units in addition to those paid direct by an institution, including taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution. (indirect governmental revenue impact)

The Tripp Umbach study also compared the projected annual research revenues and faculty practice plan revenues generated by the current UM-FAU regional medical campus model versus an independent FAU medical program. It is significant to note that currently there are virtually no clinical research revenues being produced by regional medical campus clinical faculty and no clinical practice revenue associated with the regional campus.

Finally, the Tripp Umbach study compares the relative impact on the Florida physician workforce produced by the current UM-FAU regional campus model versus an independent FAU medical program.

The impact on the Florida physician workforce is calculated assuming two different scenarios. Scenario 1 does not assume that graduates from Florida-based medical schools will remain in Florida to complete their residency training. Based upon AAMC data, 50% of all medical students who graduate from a Florida medical school will practice in the state of Florida regardless of where they pursued their residency training. Assuming an independent FAU medical program with a class size of 64 and retention of 50% of the graduates in Florida practice, 32 new Florida physicians would be produced annually. Assuming a UM-FAU regional campus with a class size is to 48 students per class and retention of 50% of graduates in Florida practice, 24 new Florida physicians would be produced annually. Scenario 2 assumes that graduates of Florida-based medical schools will also remain in Florida to complete their residency training. Based upon data from the AAMC, 75% of Florida medical school graduates who also complete Florida residency training remain in Florida to practice. Assuming an independent FAU medical program with a class size of 64 and retention of 75% of the graduates in Florida practice, 48 new Florida physicians would be produced annually. Assuming a UM-FAU regional campus with a class size of 48 students per class and retention of 75% of graduates in Florida practice, 36 new Florida physicians would be produced annually.

In summary, the Tripp Umbach study concluded that:

- The impact of the UM at FAU regional medical campus is comparable to other regional campuses around the country. As is typical, the FAU-UM regional medical campus does not have the economic and research impacts associated with the main campus of the UM medical school.
- Overall, an independent FAU medical school program would have roughly six times the economic, employment, government revenue and research impact than a regional medical campus.
- Tripp-Umbach's previous research in the states of Georgia, Pennsylvania, California, Arizona and Florida suggests that the state of Florida will achieve a significant return on its existing investment in the independent FAU medical education program, provided that the school adds and retains physicians in the regional and statewide workforce.

**Comparative Economic Impact UM-FAU Regional Medical Campus vs.
Independent FAU Medical Education Program**

	UM-FAU Regional Medical Campus	Independent FAU Medical Education Program
Business Volume	\$18.2 million	\$52.0 million
Employment	97 FTE employees	496 FTE employees
Governmental Revenue	\$909,205	\$2.6 million
Annual Research Revenue	Negligible	\$8.0 million
Faculty Practice Plan Revenue	0	\$2.0 million
Scenario # 1 (50% of graduates remain in state to practice)	24 physicians (\$31.2 million economic impact)	32 physicians (\$41.6 million economic impact)
Scenario # 2 (75% of graduates remain in state to practice)	38 physicians (\$49.4 million economic impact)	51 physicians (\$66.3 million economic impact)

Return on Investment of the FAU-Scripps Research Institute Partnership:

In early Fall of 2009, FAU retained the services of the Tripp Umbach research firm to conduct an analysis of the potential impact of the proposed collaboration between FAU and The Scripps Research Institute (see Appendix 3 for full report). To accomplish this project, Tripp Umbach employed the same ACE-based linear cash flow methodology used for its first study for FAU and developed customized models that: (a) measure the prospective economic, employment, and government revenue impacts of the proposed FAU and Scripps Research Institute Partnership; and (b) quantify the future economic, employment, and government revenue impacts associated with spin-off biomedical and commercial development in the Southeast Florida region and State of Florida based on the partnership.

This study quantified the overall economic impact, the employment impact and the government revenue impact of various components of the FAU-Scripps partnership including: (a) the Institute for Biomedical Science and Technology; (b) the dual MD/PhD degree option that would be offered by the independent FAU medical education program and the Scripps Kellogg School of Science and Technology; (c) other research partnerships that would develop as a result of the FAU-Scripps relationship; and (d) the research commercialization and business spin-offs that would result. Economic impact was quantified for the State of Florida as well as for Southeast Florida at three points in time 2015, 2020 and 2025. The study found that in less than five years, the FAU-Scripps Research Institute Partnership would produce an overall economic impact to the state of approximately \$145 million - over 10 times the \$14.4 million investment the state would have already made in the independent FAU medical education program. The table below summarizes the report findings:

Economic Impact of FAU-Scripps Partnership

	Florida			Southeast Florida		
	2015	2020	2025	2015	2020	2025
Overall Economic Impact	\$145M	\$210M	\$298M	\$112.0M	\$163.0M	\$231.1M
Employment Impact	924 FTEs	1,398 FTEs	1,891 FTEs	716 FTEs	1,083 FTEs	1,466 FTEs
Government Revenue Impact	\$5.0M	\$7.8M	\$10.4M	\$3.9M	\$6.0M	\$8.1M

As the Tripp Umbach analysis of the FAU-Scripps Research Institute Partnerships demonstrates, there would be enormous economic benefit to FAU, the region and state that will result from the strategic partnership between FAU and the Scripps Research Institute to create the FAU-Scripps Biomedical Science and Research Institute on the FAU Jupiter Campus. The research component of the Institute will be a technological powerhouse and will become a center for innovation that will spark economic development for the region through scientific discovery. Collaborative research initiatives will provide a strong base for increased federal funding opportunities in basic, emerging, and translational grant programs. The varied and interdisciplinary offerings of the research enterprise will attract the highest

quality graduate and postdoctoral students and build the Institute's reputation as a world-class destination for research training. The Institute's integrative approach to discovery will foster close collaborations with industry and facilitate development of innovative diagnostics and therapeutics. These discoveries will lead to more efficient and cost-effective delivery of healthcare services to the public, and have a profound and transforming impact on the practice of medicine. The accelerated pace of discovery afforded by the Institute will also serve as an engine for growth of the bioscience industry in the region and realization of the bioscience cluster originally envisioned when the State brought Scripps Research to Florida. New companies will be created and others will relocate to take advantage of the scientific expertise and technology offerings at the Institute. Blue-chip venture capital firms that invest in bioscience will establish a presence in the area, bringing science management expertise to the region and accelerating the transfer of technology from the laboratory to the marketplace. The Institute's training programs will create a highly skilled workforce to support the cluster.

INSTITUTIONAL READINESS

V. Related Institutional Strengths and Biomedical Infrastructure

- A. How does the proposed program specifically relate to existing institutional strengths such as programs of emphasis, other academic programs, and/or institutes and centers? What level of synergy and collaborative research can be expected by the addition of a medical program?**

The Scripps-FAU Biomedical Science and Technology Institute:

The research component of the Scripps-FAU Biomedical Science and Technology Institute will afford FAU research faculty in the existing FAU Colleges of Biomedical Science, Science, and Engineering, and in the proposed independent FAU medical education program, with an unparalleled opportunity to collaborate with a cadre of internationally renowned Scripps scientists, three of whom are Nobel Laureates and 19 of whom are members of the National Academy of Sciences.

In order to promote and enhance opportunities for close collaboration between FAU and Scripps faculty in the conduct of biomedical research activities, FAU will develop new components of its Colleges of Science and Engineering on the Jupiter campus and develop a formal strategic partnership with Scripps Florida and the Max Planck Institute, Florida. New centers/programs in Bioinformatics, Bioengineering, and Bioimaging will be created jointly among the campus partners, creating a premiere destination for integrated biomedical research. Other research-based institutions in the region (e.g., Torrey Pines Institute for Molecular Studies) would be invited to form affiliations with the Biomedical Science and Technology Institute, and the University of Florida/Florida Department of Health partnership that operates the A.G. Holley Hospital would be invited to co-locate it on the Jupiter campus and expand its research initiatives there, with a focus on emerging pathogens. Although the FAU Charles E. Schmidt College of Biomedical Science and the proposed FAU medical education program will remain on the Boca Raton campus, faculty of these two colleges will also be involved in collaborative research activities with both Scripps and Max Plank Institute research faculty.

campus
n a 2
sing
1 the

n the
ntinue
id the
rious

Schmidt College of Biomedical Science faculty have developed a strong and impressive national reputation among their research colleagues, as evidenced by their performance on the major academic indices of scholarly productivity and peer-recognition summarized in the table below

Schmidt College of Biomedical Science Faculty Scholarly Activity

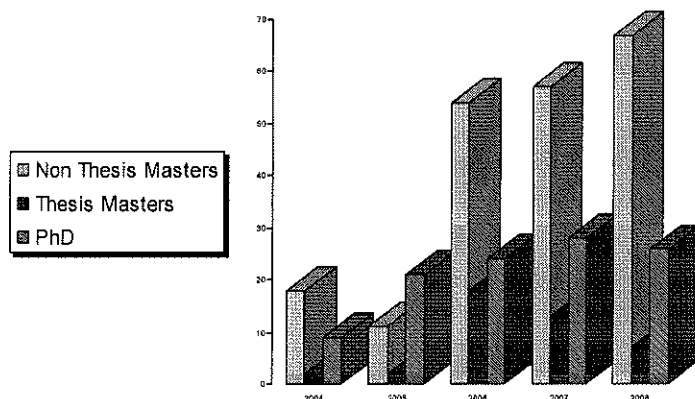
Number of Published Books, Book Chapters and Articles in Peer-Reviewed Journals	Percent of Departmental Faculty Members Who Are: (N=20)	
	Journal Editors	PIs on Extramural Grants
66*	35%	79%

PubMed sources; 2007-08

The Schmidt College of Biomedical Science Department of Basic Science offers the Masters Degree in Biomedical Science, which is available with a thesis and non-thesis option. Many full-time and part-time students are pursuing the non-thesis option of the Masters Degree in Biomedical Science, particularly premedical students who wish to enhance their academic standing prior to application to medical school. The number of students pursuing the Masters Degree in Biomedical Science non-thesis program has increased from 18 students in 2004 to 67 students in 2008. The Ph.D. in Integrative Biology, which allows students to pursue interests across a number of fields including marine science, biomedical science, biotechnology and biology is offered by the Charles E. Schmidt College of Science as a collaborative effort of faculty with appointments in both the College of Science and College of Biomedical Science. The number of students pursuing the Ph.D. in Integrative Biology has grown from 9 students in 2004 to 26 students in 2008.

FAU medical students who wish to pursue an FAU PhD in integrative biology or in one of the multiple disciplines offered by the Charles E. Schmidt College of Science will be encouraged to do so, using a dual degree model that enables them to enter the FAU PhD program after completing the third year of the FAU medical education program.

Growth in Numbers of Master's and PhD Students



by the Liaison Committee on Medical Education (LCME) to determine its eligibility for continued accreditation. This evaluation included the development of a separate regional campus database and self study and site visit to the regional medical campus. In addition to evaluating the regional medical campus medical education program, the LCME site visitors: (a) evaluated research activities of the regional campus faculty as a whole, including areas of emphasis, levels of commitment, quality, and quantity, in the context of the medical school's missions and goals; (b) assessed the adequacy of regional campus resources (equipment, space, graduate students) for research; (c) evaluated regional campus graduate program(s) in basic sciences, including involved departments, numbers and quality of graduate students, quality of coursework, adequacy of financial support, and overall contribution to the missions and goals of the medical school. Through the resources made available by the State of Florida and through the Charles E. Schmidt Biomedical Endowment, the FAU regional medical campus has been able to demonstrate that it met and exceeded the LCME standards for medical schools relating to biomedical research and scholarship.

Charles E. Schmidt Biomedical Science Endowment:

In 1998, the Schmidt Family Foundation created the \$10.0 million Charles E. Schmidt Biomedical Science Endowment. The gift agreement between the Schmidt Family Foundation and FAU specified that from FY 1999-2000 through FY 2005-2006 income from the endowment was to be used to attract and support senior and junior biomedical science faculty through establishment of Schmidt Faculty fellowships. After FY 2005-2006, endowment income is to be used to fund, update and replace biomedical equipment for the Charles E. Schmidt College of Biomedical Science.

Faculty support funding totaling over \$2.5 million has been used to provide: (a) salary supplements and research start-up funding for three biomedical science senior faculty, at the rank of full professor, who have been designated as "Schmidt Senior Fellows"; and (b) research start-up funding for six additional senior faculty at the rank of full or associate professor and nine junior faculty at the rank of assistant professor. Since FY 2006-06, approximately \$1.2 M has been used to purchase biomedical research equipment.

C. Describe any existing instructional or research facilities and other resources (e.g., library volumes, serials, specialized equipment, etc.) that will be used to initiate the program.

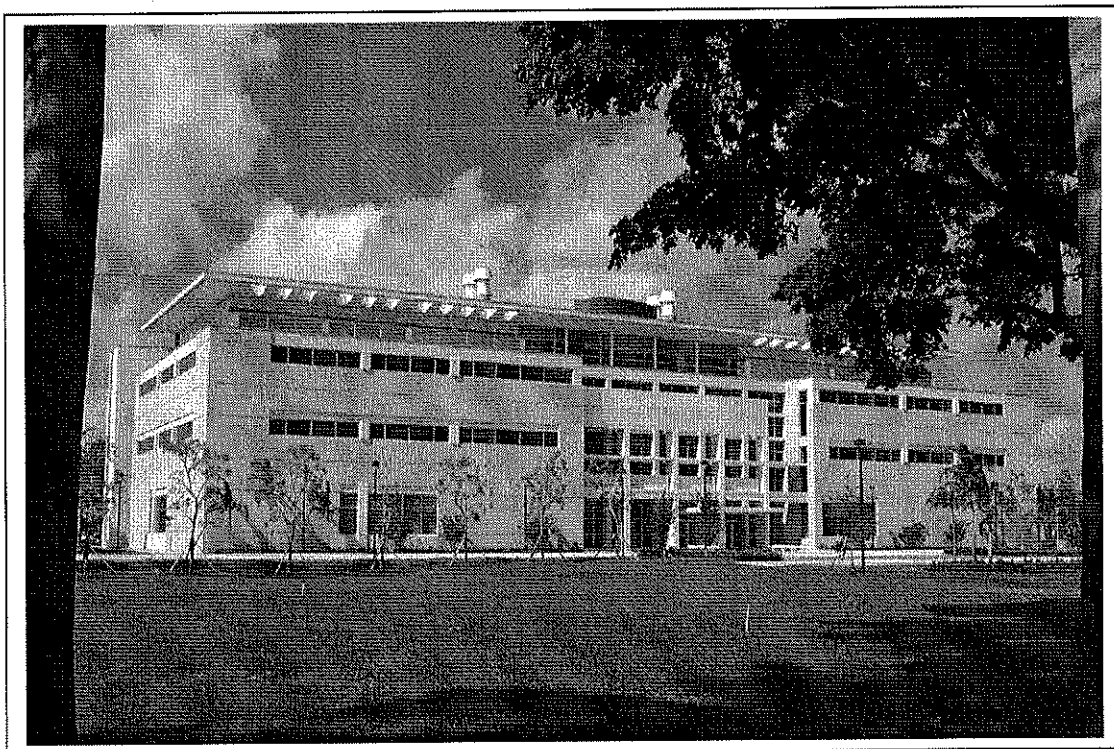
The Charles E. Schmidt Biomedical Sciences Center

The regional campus medical education program has been fortunate to be able to be housed in the Charles E. Schmidt Biomedical Sciences Center, a \$25 million facility that was constructed through a generous \$15.0M gift from the Schmidt Family Foundation, which was matched by the State of Florida.

The Charles E. Schmidt Biomedical Sciences Center, which opened in 2002, was designed specifically to house the FAU regional medical program and the graduate programs in the biomedical sciences. Space in the Schmidt Biomedical Science Center and the FAU Research Park Medical Education Satellite Facility is adequate to house the proposed FAU medical education program **without the need to construct any additional facilities.**

It is important to note that the LCME site visitors to the FAU regional medical campus in February, 2009 noted **no** deficiencies related to the facilities available for the medical education program.

The Charles E. Schmidt Biomedical Sciences Center



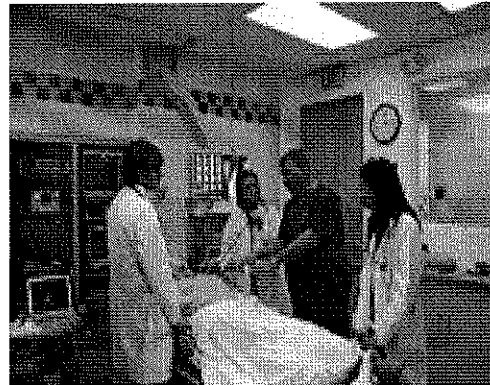
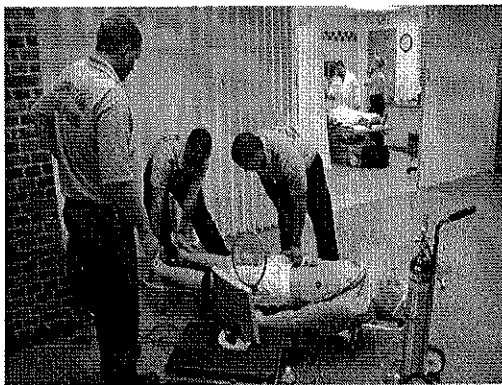
The 93,000 sq. ft. Schmidt Biomedical Science Center has one large lecture hall, two smaller lecture halls, six small group learning rooms, eight clinical exam skills rooms and a gross anatomy lab. Each clinical exam skills room has a camera with microphone that is wired to a monitor and VHS recorder so each session can be viewed by a faculty member and recorded for the student. The monitors and VHS units are in a separate room so the faculty member does not disturb the session. There are separate monitors and VHS units for each room, so all eight rooms can be in use simultaneously. There are also two, approximately 500 sq ft., medical student lounges in the Schmidt Center.

In addition to the Charles E. Schmidt Biomedical Science building, an additional 6,500 sq. ft. of space is being leased at a satellite facility in the FAU Research Park, less than half a mile from the Schmidt Biomedical Science Building. The satellite facility includes the Medical Simulation Center, two conference rooms and four small group learning community rooms. The new state-of-the art, FAU Medical Simulation and Training Center is one of the most sophisticated facilities of its kind on any US medical school campus. The center houses multiple full-body adult and pediatric mannequins that can be used to simulate a full range of medical scenarios that occur under both normal and unconventional

(disaster) circumstances, as well as organ-specific simulators that enable students to conduct breast, pelvic, prostate, ear and eye examinations.

The full body mannequins can be programmed to create scenarios involving multiple providers, multiple care environments and multiple simulated patients. Beginning in the first year, medical students use simulators to begin to develop their diagnostic and procedural skills and to learn concepts related to evidence-based medicine and systems-based care. The Medical Simulation and Training Center is also being made available for training of community first responders, including police, fire fighters and emergency medical technicians. Plans are also being developed to make the Simulation Center available to residents in the new GME programs being developed in affiliation with the regional medical campus. By using simulated patients and scenarios, medical students, medical residents and other community health care professionals and first responders are able to become familiar with advanced medical technology and become more proficient in their diagnostic and procedural skills in a safe environment under the supervision of trained instructors.

FAU Boca Raton Campus Medical Simulation and Training Center



Each first and second year medical student currently has his or her own study carrel arranged around the perimeter of the small group learning rooms located in either the Schmidt Biomedical Science Center or the FAU Medical Education Research Park facility, and space is adequate between these two facilities to ensure that a private study carrel is provided for each of the 127 first and second year student when the FAU independent medical education program reaches full enrollment of 246 students.

The space currently available for the independent FAU medical education program in the Schmidt Biomedical Science Center and the FAU Medical Education Research Park Facility is summarized in the tables below.

Charles E. Schmidt College of Biomedical Science Center (BC-71)
Medical Education and Research Space

Year Constructed: 2002	Year of Last Major Renovation: 2008-09	
Type of Room	Capacity	Main Educational Use(s)**
Lecture Hall 126	114	Lectures, small group discussions
Lecture Hall 128	48	Lectures, small group discussions
Lecture Hall 130	48	Lectures, small group discussions
Study Rooms 101,107, 109 &114	20 each	Study, small group discussions
Study Rooms 106 & 108	24 each	Study, small group discussions
Gross Anatomy Lab 401	2,136 sq. ft.	Human anatomy instruction
Clinical Skills Examination Rooms (8)	800 sq.ft	Clinical skills instruction/assessment
Vivarium	3,317 sq. ft.	Laboratory animal facility
24 Principal Investigator Labs	14,400 sq.ft.	Biomedical research
Shared Core Labs (4 large, 3 small, 1 x-ray, 2 cold rooms)	11,868 sq.ft	Biomedical research

FAU Medical Education Research Park Facility
Instructional Space

Year Constructed: 2002	Year of Last Major Renovation: 2008-09	
Type of Room*	Seating Capacity	Main Educational Use(s)**
Conference Room 1 Discussion, distance learning facilities	24	Lectures, small group
Conference Room 2 Discussion, distance learning facilities	12	Small groups
Small Group Study Rooms 1,2,3 & 4 Training, small group discussion	20 each	Study, small groups
Simulations Center Two bay emergency simulators and 3 station triage area	48	Case-based studies and scenario simulation
Ambulance	6	Simulation of emergency room treatment in live, real time environment

Student Services:

As the UM-FAU regional campus has evolved from a two year to a four year program, faculty and staff based on the FAU campus have progressively assumed responsibility for providing most of the student services required for an independent FAU medical education program including:

- Admissions – managed through the existing office of the Assistant Dean for Medical Student Services.
- Registrar/Student Records – professional staff from the UM Miami campus provide registrar services on the regional campus three days a week; FAU compensates UM for registrar services.
- Counseling/Advisement- personal and career counseling is managed through the existing office of the Asst. Dean for Medical Student Services.
- Academic Support/Tutoring Services – managed through the existing office of the Assistant Dean for Medical Education.
- Student Health Services – Preventive and therapeutic health services as well as psychiatric and psychological counseling services are provided through the FAU Student Health Center and Counseling Center, both of which may refer students to community health care professionals. Emergency health care services are provided through BRCH which is within half a mile of the regional campus.

As part of the LCME accreditation review of the UM-FAU regional medical campus conducted in February, 2009, students on the regional campus were asked to complete questionnaires which enabled them to evaluate various aspects of their experience on the regional campus, including student services. Student responses indicate that they are generally very pleased with the quality and availability of student support services. Counseling for personal problems is considered to be readily available and students report a general feeling of comfort discussing such issues with faculty. Other aspects of student support, such as the availability and adequacy of career counseling and financial aid and debt management services, are considered to be satisfactory. Student health services are considered to be adequate, with education about prevention and exposure to infectious disease found to be particularly good.

As of the 2009-10 academic year, the only student support service that is not being provided by faculty and staff on the regional campus is financial aid, which is provided by the staff on the UM Miami campus. Funding for two financial aid positions and four additional professional and clerical student services positions are included in the proposed budget for the independent FAU medical education program (see FBOG Table 2M).

Instructional Technology:

The instructional technology requirements of the regional medical campus are currently supported by a staff of three full-time and two part-time technicians, who are also responsible for providing IT support to the basic science Masters and PhD programs within the Schmidt College of Biomedical Science. The IT staff is responsible for: (a) maintaining the computer network (wired and wireless) inside the Schmidt Biomedical Science Center facility and the Satellite FAU Research Park facility; (b) installing and maintaining all servers in the college; (c) testing, installing and maintaining all computers in the

college; (d) troubleshooting and repairing computers (PCs and laptops) in the college; (e) planning, developing and maintaining the college's website and all their databases (f) maintaining liaison with the university's computing center (IRM) and other colleges within the institution; (g) videoconference with the UM medical school, other FAU campuses and other institutions around the world; (h) recording and archiving designated lectures; and (i) maintaining servers and equipment devoted to videoconferencing.

It is anticipated that the current IT staff will be adequate to support the independent FAU medical education program.

Library Resources:

To date, students on the regional medical campus have had access to the FAU Wimberly Library and the UM Calder Medical Library. The FAU Wimberly Library overall collection is described in the table below.

A total of \$365,000 in recurring funding has been allocated from FAU institutional resources to expand the FAU library's medical and health-professions related collection.

FAU WIMBERLY LIBRARY	
Total current journal subscriptions (all formats)	13,909
Total journal subscriptions (print only)	1,645
Number of book titles (all formats)	1,328,615
Number of book titles (print only)	1,017,857
Number of databases	359
Total collection expenditures (2009-10)	\$3,041,011

The FAU library currently participates with LYRASIS (formerly the Southeastern Library Network), Seflin (Southeast Florida Library Information Network) and CRL (Center for Research Libraries) to forward the progress of materials and foster cooperation in library trends. The library participates in various FCLA (Florida Center for Library Automation) committees and many faculty librarians are members of the various subcommittees that FCLA offers, such as electronic resources and digital archiving initiatives.

The library employs the EZ-Proxy system on a dedicated server to allow all faculty, students, and staff to access online resources from off campus locations, including electronic books, theses, dissertations, and online journal articles. The Interlibrary Loan (ILL) Department provides loans of books and photocopies of articles held at the FAU Library, as well as ILL materials provided by other libraries. All articles are delivered electronically to the FAU requestor's desktop and books are made available at the Boca Raton circulation desk. The library also participates in fee-based document delivery services, such as Washing doc and Lonesome doc, in order to acquire hard to find items. Whenever possible and economically feasible, resources are acquired in electronic format to accommodate distance patrons. The Florida Atlantic University Library currently contributes two reference and education librarians (totaling 1.25 FTE) to support the regional medical education program. These librarians have an office in the Schmidt Biomedical Science Center Building and offer at least five hours a week of office hours.

The College of Biomedical Science (including the Department of Clinical Science and Medical Education faculty) has a seven member library committee which meets regularly to discuss issues such as material accessibility and collection development. There is a librarian present at all faculty meetings, and librarians have frequently served on ad-hoc committees when required. The librarians work closely with the curriculum planning group to formulate necessary changes as needed in response to assessments results, learning outcomes, and changes in scheduling. Librarians frequently assist faculty and other physicians in the local community with accessing hard to find concepts and research materials. In addition, the librarians instruct the students and faculty on ongoing changes in the field of library research and will arrange either one-on-one sessions or group instruction depending on the request of the individual/instructor.

- D. Describe additional facilities and resources required for the initiation of the proposed program. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. The provision of new resources will need to be reflected in the budget table (FBOG Table Two-M), and the sources of funding indicated.**

Facilities:

The independent FAU medical education program, with an enrollment of 246 students, can operate in existing facilities on the FAU Campus (Schmidt Biomedical Science Center and FAU Research Park Satellite Facility).

Library:

As has been previously indicated, a total of \$365,000 in recurring funding has been allocated from FAU institutional resources to expand the FAU library's medical and health-professions related collection.

Because regional medical campus students and faculty have had access to the resources of the Calder Library Medical on the Miami campus, it has not been necessary for FAU to expend more substantial funds, either from the resources appropriated for the regional medical program or from FAU institutional funds, to establish a collection comparable to that typically found in a free-standing medical library.

Increasingly, the most significant, recurring expenditures made by medical libraries are to purchase and maintain subscriptions to electronic journals and databases. Print textbooks, while still necessary, typically constitute less than 20% of most medical libraries' recurring costs, once the core print collection has been acquired.

FAU has developed an estimate of the cost of acquiring the additional print and electronic resources that FAU would need to acquire to replace the core electronic resources currently being provided by the UM Calder Library and to acquire the additional electronic and print resources that comprise a small medical school library collection. The estimate assumes that:

- a) selected print textbook and journal titles from the “Brandon/Hill Selected List of Print Books and Journals for the Small Medical Library”, which has recently become the “Doody’s Core Title List” that are not currently included in the FAU library collection would have to be acquired;
- b) that print books would have to be periodically replaced;
- c) that selected electronic journals that the FAU library does not currently subscribe to would need to be purchased; and
- d) that subscriptions to selected electronic databases that are currently being accessed through the Calder Library would have to be purchased.

The estimated additional expenditure required to augment the existing FAU medical and health-professions related collection to support an independent FAU medical education program is as follows:

Resource	Costs
Online Database subscriptions*	\$150,000
Online and Print Journals	\$100,000
Books	\$ 50,000

FAU is also in the process of exploring the possibility of establishing a consortium relationship with one or more SUS Florida medical schools to share electronic library resources. Specific conversations about the feasibility of such a medical library consortium arrangement have occurred with the University of South Florida College of Medicine. The Scripps Research Institute has also indicated its willingness to provide FAU M.D. and M.D./Ph.D. students with full access to its extensive library. Through such arrangements FAU will contract with these libraries to share the cost of subscribing to specific electronic databases and journals. Because the costs of subscribing to electronic resources are typically based on the number of users, it is anticipated that it will be less expensive for FAU to compensate another medical school for the incremental costs of increasing the number of users for an electronic database the medical school already subscribes to than it will be for FAU to purchase subscriptions to these resources separately for the relatively small number of users the independent FAU medical education program will have.

Library Personnel:

The Florida Atlantic University Library currently contributes two reference and education librarians (totaling 1.25 FTE) to support the regional medical education program. One additional professional librarian and one library technician will be required for the independent FAU medical education program. Funding for these positions is included in the proposed budget provided in FBOG Table 2M.

Student and Administrative Support Services:

The proposed budget for the independent FAU medical education program (See FBOG Table 2M) includes funding for six additional administrative and support staff positions that will be required to provide the full range of student services required when the independent FAU medical education program reaches full enrollment. These positions include a Director of Financial Aid, a Director of Admissions, a support staff person for each of these positions, a support staff person for the Registrar’s function and one support staff position for the Associate Dean for Clinical Affairs/Graduate Medical

Education, which is a new senior administrative position that will be created to oversee the development of FAU sponsored and affiliated residency programs and creation of the FAU faculty practice plan.

VI. Curriculum

Given that the creation of a new medical school entails establishing an entirely new curriculum, it is anticipated that a detailed curriculum will be set once appropriate administrators and faculty are on board. However, it is important that the university be able to describe expectations for its medical program and to demonstrate that the proposal sufficiently addresses factors that would impact the cost of implementing the program.

A. Briefly describe if the university expects to offer a traditional course of study, or a course of study that in substantial ways differs from traditional medical education. Describe any special areas of emphasis within the proposed program(s), identify resources that will be used to develop a sequenced course of study, and provide the total number of credit hours for the degree.

Because of the demonstrated quality, strength and effectiveness of the Continuity Medicine Curriculum (CMC) currently being offered on the FAU regional medical campus, FAU proposes to keep the core components of the CMC curriculum in place for students pursuing the FAU MD degree. 175 credit hours are currently required to complete the MD degree. It is anticipated that this will remain unchanged for students in the MD program.

For students pursuing the MD/PhD program, it is anticipated that the number of credit hours required to complete the didactic and clinical portions of the medical curriculum will be reduced to approximately 130 credit hours, which will be completed in three years, after which students will begin the PhD curriculum. Instead of completing the fourth year of the medical curriculum, which is comprised of clinical sub-internships and clinical electives, students in the MD/PhD program will begin the PhD program at the Scripps Kellogg School of Science and Technology. The MD degree will be conferred by FAU at the end of the first year of the PhD program.

The Continuity Medicine Curriculum (CMC) emphasizes the centrality of collaborative relationships to successful learning and in the delivery of the highest quality health care. The curriculum places a priority on active, collaborative, learner-centered methodologies and uses a chronic illness model to prioritize the knowledge, skills and attitudes required of physicians to practice in today's health care system.

Clinical experiences emphasize interdisciplinary, team-based, complex disease management with a major focus on continuity care, health maintenance and disease prevention. Throughout the four years of study, this innovative curriculum will be anchored by two courses, the Integrated Patient Care course, an experience wherein students are assigned to a community primary care clinic, and the Physicianship Skills course that provides learning opportunities in the non-traditional competency areas that are fundamental to a modern physician's skill-set. Each student follows a patient panel, beginning in the first year, throughout all four years of the curriculum. Students form Learning Communities of approximately eight students each who share and learn from each others patients and clinical experiences. The required coursework is arranged to allow students extended

opportunities to pursue specialized areas of study including Masters degrees in public health or business administration or certificates of achievement in biomedical research. In addition to a community physician preceptor, each student is assigned to a clinician faculty mentor to work collaboratively with their student.

The educational program and environment that have been created on the FAU medical campus foster and promote collegial and collaborative behaviors among students, faculty, physicians and patients. Throughout the curriculum, students assume increasing responsibility for their education. Students are assessed throughout each year to determine the extent to which they have mastered the core program content and critical skills necessary to become an effective physician.

The FAU medical program is a patient-centered learning environment that emphasizes patient involvement and positive patient outcomes, especially patient safety and satisfaction, throughout the curriculum.

The educational track breaks down traditional barriers between disciplines. In addition to integrating the basic and clinical sciences, the curriculum includes and integrates the behavioral and social sciences in all four years. The curriculum recognizes that an effective, modern practitioner requires a skills set that transcends the biological sciences and the treatment of disease. In addition to providing a strong foundation in the biomedical sciences, the curriculum places emphasis on these areas:

- Humanistic Medicine
- Professionalism
- Reflective Practice and Self-Improvement
- Quality Improvement and Outcomes Management
- Patient Safety
- Information Management and Evidence Driven Decision Making
- Comprehensive Chronic Disease Management
- Inter-professional Care and Teamwork
- Population Based Medicine

The FAU medical program employs a variety of modern educational methodologies that require students to be active and responsible learners. The curriculum focuses on faculty and student-led small group experiences wherein basic science concepts are introduced and assimilated in light of common disease states and clinical relevancy. These sessions are supported by lectures.

An over-arching longitudinal theme throughout all four years of the curriculum at Boca Raton is the acquisition and refinement of clinical skills through expert teaching and frequent patient interactions. Full and part-time clinical faculty, working with community-based faculty physicians at multiple Palm Beach County hospitals and clinics, provide the supervision and venues for clinical training. Among these sites are the Palm Beach County Department of Health, Boca Raton Community Hospital, Bethesda Memorial Hospital and JFK Medical Center.

First Year

The first year of the curriculum is the beginning of a four-year continuum where students begin the clinical experience through assignment to a community preceptor and a panel of patients to begin assimilating the concepts of continuity of care, and the skills and behaviors of physicians. In parallel, students are introduced to the fundamental concepts and vocabulary of the basic sciences and human organ systems using a combination of small group case-based learning exercises, supported by didactic lectures. Throughout the first two years, clinical cases are utilized to emphasize the relevance of biomedical science to the practice of clinical medicine. Independent study is included to develop the life-long learning skills needed by every physician.

Core Modules

Fundamentals of Biomedical Sciences	30% of time
Introduction to Clinical Organ Systems	30% of time
Integrated Patient Care	20% of time
Physicianship Skills Course	20% of time

The CMC Fundamentals of Biomedical Science is a three-course sequence that covers the basic concepts and vocabulary in the disciplines of cell biology and physiology, genetics and biochemistry, immunology, microbiology, anatomy, histology and pathology. This course meets for about 20 hours per week with no more than ten hours of lecture per week and at least ten hours per week of small group or other non-lecture sessions. Week-long clinical cases cover specific learning objectives for the various basic science disciplines, are facilitated by a faculty tutor and have lectures designed to complement the clinical cases.

The CMC Neuroscience and Behavioral Science course is an interdisciplinary approach to the study of the nervous system. In the context on the principles of continuity medicine and chronic illness, the module includes neurophysiology, neurochemistry, pharmacology, neuropathology, microbiology, immunology, and behavioral psychology. Progressing from neuroanatomy to gross anatomy, students learn the structure and function of the nervous system from the head/brain and neck, to the muscle and motor units. Students are introduced to the basic science of behavioral medicine and the common diseases that are encountered. Finally, the basic sciences are integrated to the clinical sciences of neurology, neurosurgery, otolaryngology and psychiatry. A combination of didactic, small-group and laboratory methods are used. Similarly, the CMC Cardiovascular System course is an interdisciplinary approach to the study of the cardiovascular system including the heart and blood vasculature. The basic sciences are integrated with the clinical sciences of cardiology in the study of cardiac function and its response to changes in the body with aging from birth to the elderly. The module seeks to place cardiovascular disease and management into the context of continuity medicine and chronic illness using a combination of didactic, small-group and simulation teaching methods.

The clinical training portion is launched by the CMC Introduction to the Medical Profession, which provides the foundation of the regional campus' areas of emphasis. The 3-week course covers the role and responsibilities of physicians, concepts of population medicine and professionalism. Introductory lectures on the art of history taking will be held. Along with didactic sessions, the course utilizes communication skills laboratories designed to equip students for the community physician practice and Palm Beach County Department of Health clinic settings. Panel discussions

revolving around professionalism and the doctor-patient relationship will also occur. Upon completion, CMC Integrated Patient Care 1 and 2 courses begin and are designed to allow students to develop their fundamental clinical skills (communication, history taking and physical exam skills) in continuity of care environments (community practice setting and Department of Health clinics). The IPC course meets for 4-5 hours per week and is closely coordinated and integrated with the Physicianship Skills course. Community and faculty preceptors supervise and evaluate students longitudinally.

The CMC Physicianship Skills 1 and 2 courses expose students to competencies that physicians must master to provide high quality and effective care in today's health care system. The course covers the fundamentals of process evaluation, quality management, outcomes assessment, patient satisfaction, patient safety, systems-based care, interprofessional team care, and complex chronic disease management. The PS course meets for 4-5 hours per week. The Learning Community, where students and their assigned faculty preceptor meet, provides a weekly opportunity to review patients and relate patient issues to the course themes.

Second Year:

Students continue the clinical experience begun in year 1 with their preceptor and patient panel. Clinical disorders and the associated relevant basic sciences are presented in an integrated disease management framework which is in alignment with the clinical rotations of the third year. The first five modules comprise 40% of the second year curriculum.

Integrated Organ System Modules and Clinical Care

Respiratory, Gastrointestinal and Nutrition, Renal, Hematology/Oncology, Endocrine and Reproductive, Infection and Inflammation	40% of time
Integrated Patient Care	60% of time
Physicianship Skills Course	

Third Year

Integrated clerkships allow students to follow their patients through their care and treatment and participate in the medical, surgical, diagnostic and therapeutic aspects of the care required for management of acute and chronic illnesses. Students continue to spend time with their Integrated Patient Care community preceptor following their patient panel and other patients presenting with acute and chronic illnesses. The first six clinical experiences account for about 80% of the student's academic time during the third year.

Clinical Experiences

Integrated Clinical Experiences will include experiences in: Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, Psychiatry, Family Medicine, Palliative Care, Geriatrics, Radiology, and Anesthesiology	80% of time
Integrated Patient Care	20% of time
Physicianship Skills Course	

Fourth Year

Students complete advanced coursework appropriate for their selected area of study (population health, health care delivery systems, research). Students continue to spend time in their primary care practice settings following their patient panel and other patients who present to their mentors with acute and chronic illnesses.

Clinical Experiences

Electives	80% of the time
Integrated Patient Care	20% of the time

CONTINUITY MEDICINE CURRICULUM SCHEMATIC YEARS 1 AND 2

The Continuity Medicine Curriculum (CMC) of UMMSM at FAU

M1 Year: 2007-2008

August	September	October	November	December	January	February	March	April	May	June
--------	-----------	---------	----------	----------	---------	----------	-------	-------	-----	------

CMC Intro to the Medical Profession (3 weeks)										
CMC Integrated Patient Care 1 (16 weeks)					CMC Integrated Patient Care 2 (20 weeks)					
CMC Physicianship Skills 1 (16 weeks)					CMC Physicianship Skills 2 (20 weeks)					
CMC Fundamentals of Biomedical Science 1 (7 weeks)	CMC Fundamentals of Biomedical Science 2 (8 weeks)	CMC Fundamentals of Biomedical Science 3 (7 weeks)			CMC Neuroscience and Behavior (8 weeks)		CMC Cardiovascular System (8 weeks)			

M2 Year: 2008-2009

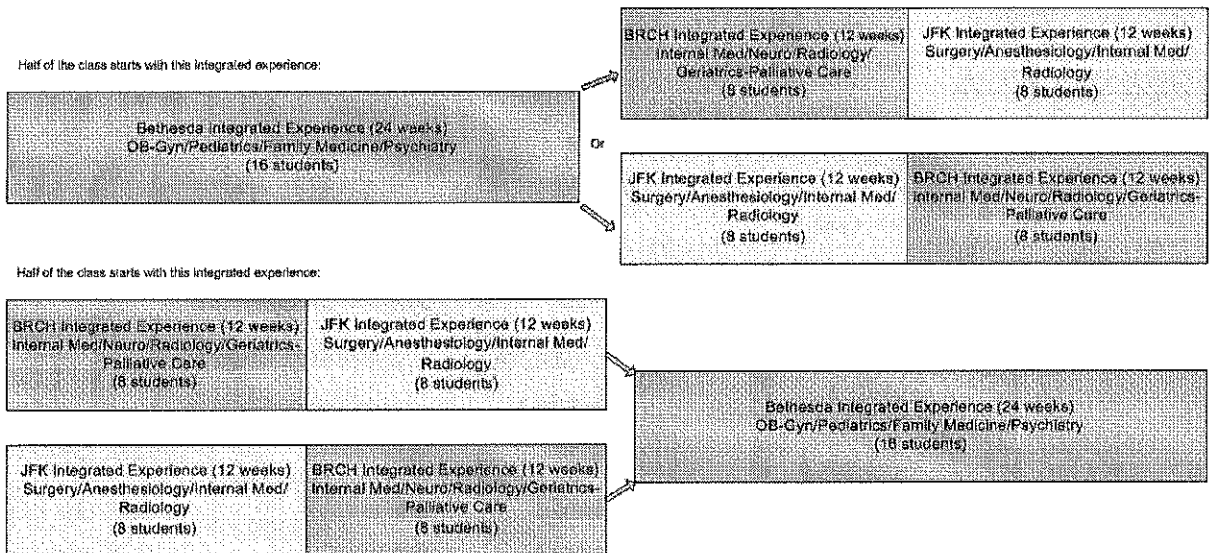
July	August	September	October	November	December	January	February	March	April	May	June
------	--------	-----------	---------	----------	----------	---------	----------	-------	-------	-----	------

CMC Integrated Patient Care 3 (29 weeks)										
CMC Physicianship Skills 3 (29 weeks)										
CMC GI-Nutrition (6 weeks)	CMC Pulmonary (4 weeks)	CMC Renal (6 weeks)	Inter session (6 weeks)			CMC Hematology-Oncology (4 weeks)	CMC Endocrinology (5 weeks)	USMLE Step 1 Preparation and Examination (6 weeks)		Special Studies or Research or Clinical Rotations (10 weeks)

CONTINUITY MEDICINE CURRICULUM SCHEMATIC YEARS 3 AND 4

M3 Year: 2009-2010

July	August	September	October	November	December	January	February	March	April	May	June
CMC Integrated Patient Care											
CMC Physicianship Skills											



M4 Year: 2010-2011

July	August	September	October	November	December	January	February	March	April	May	June
CMC Integrated Patient Care											
Electives, Internships											

B. Describe the admission standards and graduation requirements for the program.

An Admissions Committee will be established for the FAU medical education program which will be responsible for developing admissions standards and policies to ensure admission of a highly qualified and diverse student body to the MD program.

A subcommittee of the FAU Admissions Committee will be created, comprised of FAU faculty and Scripps Kellogg School of Science and Technology faculty, to interview and select applicants to the MD/PhD program.

MD Program Admission Standards:

At a minimum, applicants to the MD program will be required to have a Bachelors degree, or the equivalent, from an accredited institution of higher education. At a minimum, successful applicants will generally have completed at least one year each of the following courses, the majority of which should be taken at the senior college level:

	Semesters	Quarters
English	2	2
Chemistry w/labs	2	2
Organic chemistry w/labs	2	2
Physics w/labs	2	2
Biology w/labs	2	2
Math, natural/social/computer science	2	2

Although not required, coursework in one or more of the following areas will be strongly recommended: biochemistry, cell and molecular biology, genetics, microbiology, physiology, immunology computer science, neuroscience, statistics and developmental biology.

It is expected that successful applicants will have a minimum cumulative GPA of 3.5 and a minimum science GPA of 3.4.

Applicants will be required to take the Medical College Admission Test (MCAT)

Students will apply through the America College Medical Application Service (AMCAS). The application materials will include:

- AMCAS application
- FAU on-line application
- Letters of recommendation
- MCAT scores

In addition to the admissions criteria cited above, the successful applicant will be able to demonstrate that they have effective communications and interpersonal skills during the admissions interview process.

MD/PhD Program Admission Standards:

Outstanding applicants with diverse backgrounds will be considered on an individual basis. However, most successful applicants to the MD/PhD program will typically have to meet all of the following Kellogg School PhD program admission criteria, to the extent that they are different from, or in addition to, the criteria for admission to the FAU MD degree program.

1. Students should have completed at least two of the following four general courses:
 - one year of general biology
 - one year of general physics
 - one year of general chemistry
 - one year of mathematics (calculus and differential equations)
2. Students should have taken at least four semesters distributed among the following advanced subjects:
 - cell biology
 - developmental biology
 - molecular genetics
 - organic chemistry
 - biophysics
 - macromolecular structure
 - physical chemistry
 - biochemistry
3. Students should have taken laboratory courses in at least three of the following subjects:
 - biology
 - biochemistry
 - chemistry
 - physics
4. Students should have one or two years of research laboratory experience.

MD Program Graduation Requirements:

Students must meet the following academic requirements for graduation and conference of the M.D. degree:

- Satisfactorily complete of all sections, courses, clerkships, longitudinal themes and examinations comprising the four-year medical curriculum;
- Pass the USMLE Step 1 prior to starting the third year of the medical curriculum;
- Sit for the USMLE Step 2 CS and CK prior to graduation;
- Pass the Objective Structured Clinical Examination (OSCE);
- Acquire certification in Basic Life Support (BSL) and Advanced Cardiac Life Support (ACSL)

Requirements for Completion of the MD Requirements of the MD/PhD Degree:

In addition to meeting the requirements listed above for graduation from the MD program, students in the MD/PhD program must demonstrate satisfactory completion of the first year of the Kellogg School of Science and Technology PhD curriculum, as certified by Kellogg School, in order to be awarded the MD degree by FAU. Students in the dual MD/PhD program will receive the PhD degree after satisfying all graduation requirements for the degree established by the Kellogg School of Science and Technology.

C. Provide a brief timeline for seeking LCME accreditation that identifies specific benchmarks which will need to be met. Identify any research doctoral programs that will need to be implemented in order to obtain full accreditation.

The FAU regional medical education program underwent comprehensive scrutiny by the LCME during the February, 2009 accreditation review of the UM School of Medicine. As part of this accreditation review, a separate, comprehensive database, self study and student survey were prepared for the regional medical campus. The data prepared by the FAU regional medical campus and the site visit conducted to the regional campus by the LCME site visitors was comparable, in rigor and scope, to the process that is used by the LCME to determine new medical schools' eligibility for preliminary accreditation.

In the LCME accreditation team site visitor's report released in October, 2009, the LCME found the FAU regional medical campus to be "well-conceived and implemented" and cited the FAU regional medical program as one of the five strengths of the UM medical school. These recent, highly favorable, LCME findings related to the FAU regional medical campus program suggest that the LCME's response to FAU's application for accreditation of an independent FAU medical education program will also be favorable.

Because the FAU medical education program has so recently undergone an LCME review process comparable in rigor and scope to the process that is used by the LCME to determine a new medical school's eligibility for preliminary accreditation, it is anticipated that the LCME will not require FAU to repeat the entire process that developing medical schools with no extant program are required to complete prior to being eligible for consideration for accreditation. It is probable, however, that the LCME will require FAU to revise and update the database it submitted prior to the Feb. 2009 LCME site visit to ensure that FAU is prepared to provide all of the resources required for an independent FAU medical education program. FAU representatives plan to consult with the LCME early in the 2010 calendar year to clarify how the typical LCME data submission and site visit procedures might be modified or accelerated in light of the LCME scrutiny that the FAU medical education program has recently undergone.

**TIME LINE FOR LCME ACCREDITATION OF THE INDEPENDENT
FAU MEDICAL EDUCATION PROGRAM**

1/20/2010	FAU BOT abrogates FAU-UM Affiliation Agreement and approves pursuit of BOG approval for independent FAU medical education program and BOG authorization for FAU to award the MD degree and collect MD tuition.
2/2010	FAU BOT approves FAU BOG application.
2/2010	FAU application submitted to BOG.

3/18/2010	BOG approves FAU's request to grant MD degree and for related tuition authority.
2-3/2010	FAU representatives conduct consultation visit to LCME Secretariat staff to discuss plans for independent FAU medical education program and potential to modify/accelerate database submission process and site visit schedule leading to preliminary accreditation
3-5/2010	FAU develops supporting materials as identified during LCME Secretariat consultation
6/2010	Legislature authorizes and Governor approves legislation creating independent FAU medical education program.
6/2010	FAU submits application for preliminary accreditation to LCME.
6-8/2010	LCME site visit occurs
10/2010	LCME grants preliminary accreditation to FAU medical education program.
10/2010	FAU begins to recruit applicants for charter medical education program class.
7/ 2011	Charter class begins.
2011-2012	FAU updates and submits database and self-study/progress report to LCME.
7/2012	Second class begins FAU medical education program.
2012-2013	FAU updates and submits database and self-study/progress report to LCME. Limited LCME site visit occurs mid-point of second academic year.
6-10/2013	LCME grants provisional accreditation to FAU medical education program.
7/2013	Third class begins FAU medical education program.
2013-2014	FAU updates and submits database and self-study/progress report to LCME.
2013-2014	LCME grants full accreditation to FAU medical education program.
5/2014	First class admitted to dual MD/PhD program completes MD curriculum and begins PhD
7/ 2014	Fourth class admitted to FAU medical education program.

D. Describe briefly the anticipated delivery system for the proposed 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).

The FAU MD program will be delivered “traditionally” through a medical school located on FAU’s main campus in Boca Raton. Use of the regional or distributed medical campus model is not anticipated.

The Continuity Medicine Curriculum (CMC) that will be delivered by the independent FAU medical education program dedicates a significant percentage of time to early and continuous outpatient clinical experiences in a wide range of community-based ambulatory facilities including private physicians’ offices for the Integrated Patient Care (IPC) component of the curriculum and Palm Beach County Health Department clinics. The three integrated third year clerkships are currently being offered by JFK Medical Center, Boca Raton Community Hospital and Bethesda Memorial Hospital, which will continue to serve as clerkship sites for the independent FAU medical education program. The Cleveland Clinic has also indicated its willingness to serve as a clerkship site. Students enrolled in the dual MD/PhD program will complete the MD component of the degree on the FAU Boca Raton Campus. The PhD component will be provided on the Scripps Institute Florida Campus, which is located on the FAU Campus in Jupiter.

VII. Medical Residency Programs

Provide detailed plans regarding development of medical residency programs, particularly those in Florida, to accommodate program graduates. Identify potential locations and provide evidence that discussions have taken place with potential providers. Document any existing commitments and agreements.

Creation of New Residency Programs:

FAU will continue to honor the commitment it made to the Florida Board of Governors and Legislature, when the 4 year regional medical campus was approved, to expand residency program training opportunities in the FAU six county service area and beyond. There where no MD residency programs in this heavily populated area of the state until the creation of the new Palm Beach County internal medicine residency program. This 66 position program, offered jointly by JFK Medical Center and the West Palm Beach V.A. Medical Center, which opened in 2008, was the first new U.S. general internal medicine residency program to be approved by the Accreditation Council on Graduate Medical Education (ACGME) in almost 30 years, when it received approval in 2007. This residency program is sponsored by UM in affiliation with the FAU regional medical campus.

In 2006-2007, FAU conducted an assessment of several regional hospitals’ ability to support residency

training programs, as a result of each hospital's expressed interest in affiliating with the FAU regional medical program to provide graduate medical education. A chart summarizing each hospital's baseline characteristics that are important to the provision of residency training is provided as Appendix 5.

In conducting this initial assessment, particular attention was focused on each hospital's ability to meet the accreditation requirements for residency programs in the core primary care areas of general internal medicine, general surgery, obstetrics/gynecology and pediatrics. Highest priority has been given to establishing residency programs in these four core primary care areas for two reasons. First LCME standards for the accreditation of medical education programs require that medical students have an opportunity to interact with at least one residency program. Interaction with faculty and residents in more than one specialty is highly desirable. Second, the ACGME requires that residency programs in general internal medicine and general surgery be established before hospitals can offer residencies and fellowships in medical and surgical specialties and subspecialties.

After the conduct of this initial assessment, further, more comprehensive data was collected from each candidate hospital and a series of meetings were conducted with the hospitals' leadership and medical staff. At the conclusion of these meetings, Boca Raton Community Hospital (BRCH), Holy Cross Hospital and the regional Tenet system hospitals were identified as the best candidates for residency training programs in the core specialty areas. It is important to note that Boca Raton Community Hospital has been committed to becoming a major, FAU-affiliated residency program training site since the earliest proposals were developed to create a regional medical campus at FAU. Although financial constraints have required BRCH to indefinitely delay its plans to construct a new teaching hospital on the FAU Boca Raton Campus, BRCH's interest in serving as a major FAU affiliate for medical student clinical education and residency training continues to be strong.

The first table below summarizes the potential start dates and locations of the proposed FAU-sponsored residency programs that are in the most active stages of planning. Start dates, locations and number of residents in these programs are still preliminary, and may be revised as the ACGME residency program application process proceeds. Start dates for each program also reflect ACGME accreditation standards that dictate the order in which specific residency programs in primary care specialties may be established. For example, and OB/GYN residency program can only be established at a hospital that, at a minimum, serves as the site for major rotations for at least two other residency programs in either internal medicine, pediatrics, surgery or family practice. A hospital cannot offer a surgery residency program until it has at least one other residency program in either internal medicine, family practice or pediatrics. Residencies and fellowships in the subspecialties of internal medicine and surgery cannot be offered until a hospital offers a residency program in general internal medicine or general surgery. It is FAU's intent to establish residencies and fellowships in a variety of surgical and medical specialties and subspecialties (including for example, geriatrics) after residencies in general internal medicine and general surgery are well established.

Proposed New Residency Programs in Core Specialties Affiliated With the Independent FAU Medical Education Program

	Participating Hospital(s)	Total Residents	Earliest Proposed Start Date
Internal Medicine	Boca Raton Community Hospital/Holy Cross Hospital (primary sites)	45	2012-2013
	Boca Raton Community Hospital/Holy Cross Hospital (primary sites)	25	2013-2014
Surgery	Tenet System Hospitals (rotations)		
OB/GYN	Boca Raton Community Hospital / Tenet System Hospitals(primary sites)	24	2013-2014
Pediatrics	Tenet System Hospitals(primary site)	36	
			2012-2013
CORE SPECIALTY RESIDENCY POSITION TOTAL:		130	

Since completion of this initial assessment, other regional hospitals have also expressed an interest in a GME affiliation with an FAU medical education program. These hospitals include The Cleveland Clinic, Florida. Planning is continuing to identify the role that this facility can play in further expansion of residency training opportunities in the region.

Additional residency programs in other specialties including family medicine, emergency medicine and anesthesiology are also being discussed with area hospitals that have been identified through the preliminary evaluation process as having the potential to provide residency programs in these specialties.

The goal is to ultimately create a total of approximately 250-300 residency and fellowship positions in the FAU region that are affiliated with FAU.

Memoranda of Understanding have been signed between FAU and the Tenet hospital system, Boca Raton Community Hospital, the Cleveland Clinic, Florida and Holy Cross Hospital that indicate these facilities' intent to offer residency programs sponsored by FAU. These MOUs are provided in Appendix 4.

VIII. Assessment of Current and Anticipated Faculty

- A. Use FBOG Table Three-M to provide information about all existing and new faculty members who are expected to participate in the proposed program by the fifth year of implementation, their faculty codes (i.e., A, B, C, D, or E as detailed in the lower portion of Table Four-M), their areas of specialization, their proposed ranks, and when they would be hired.**
- B. Use FBOG Table Three-M to estimate each existing and additional faculty member's workload (in percent person-years) that would be devoted to the proposed program by the fifth year of implementation, assuming that the program is approved. *(Note: This total will carry over to FBOG Table Two-M's fifth year summary of faculty positions.)***
- C. In narrative form, provide an overview of the medical faculty recruitment process to be used, and identify any challenges that might make recruitment difficult (e.g., new school, need to**

seek accreditation, medical malpractice policies, etc.). Identify any areas of expertise which might constitute a special challenge for recruitment, and discuss strategies to overcome those challenges.

A total of 72 faculty members (61.0 FTE) will serve in the independent FAU medical education by the time that full enrollment of 246 students is reached.

Faculty members serving in the college will represent the traditional medical school disciplines.

Basic Sciences: 20 basic science faculty members (all 1.0 FTE) in the following disciplines: anatomy, biochemistry, immunology, microbiology, pathology, pharmacology, physiology, etc.

Clinical Science: 52 faculty members (41.0 FTE) in the following medical specialties; internal medicine, obstetrics/gynecology, pediatrics, surgery, family medicine, geriatrics, psychiatry, neurology, anesthesiology, radiology, etc.

In addition to these 52 clinical faculty, approximately 85 community physicians will be employed as affiliated faculty to serve as clinical preceptors.

The following senior administrative positions currently exist on the FAU regional medical campus and will be continued at the independent FAU medical education program: Dean, Assistant/Associate Dean for Medical Student Services, Associate Dean for Undergraduate Medical Education and Assistant Dean for Medical Education and Faculty Development. A new senior administrative position, Associate Dean for Clinical Affairs/ Graduate Medical Education, will be created.

Faculty for the independent FAU medical education program will be recruited from the following sources:

- Current basic science faculty (20.0 FTE) in the Schmidt College of Biomedical Science;
- Current FAU clinical faculty (11.0 FTE), including the following 4 administrative faculty; Regional Dean, Assistant Dean for Medical Student Services, Chair of the Department of Basic Sciences, and Chair of the Department of Clinical Science and Medical Education
- Current UM clinical faculty (14.0 FTE) teaching and serving as administrators in the FAU medical education program. A selected number of these UM clinical faculty will be offered FAU faculty appointments and the opportunity to teach in the FAU medical education program
- Current community physicians in private area practices who are currently serving as clinical preceptors
- New clinical faculty recruited to teach in the FAU medical education program (maximum of 30.0 additional FTE) depending on how many of the current UM clinical faculty are offered and accept FAU faculty appointments.

Faculty workload in the FAU medical education program will be allocated across the traditional

categories of teaching, research and service for basic science faculty and teaching, clinical practice and clinical research for clinical faculty. Assignments will vary among faculty, depending on rank, specialty and personal interest and expertise.

The hiring schedule for faculty is provided in the table below.

FACULTY HIRING SCHEDULE
(FTE) *

	Transition Year 2010-11	2011-12	2012-13	2013-14	2014-15	Total at Full Enrollment
Current FAU Basic Science Faculty	20					20
Current FAU Clinical Faculty	11					11
New Clinical Faculty**		20	5	3	2	30
Current UM Clinical Faculty	14					
Total I & R Faculty						61
Affiliated Faculty	71	3	3	4	4	85

*Faculty positions are FTEs with the exception of affiliated faculty, which are headcounts

**New clinical faculty includes maximum of 14.0 FTE UM clinical faculty currently teaching on the regional campus, a selected number of whom may be retained to serve as FAU clinical faculty

FAU does not anticipate any significant impediments to recruiting the additional clinical faculty required for the FAU medical education program. The opportunity to teach in a new medical program is very attractive to many clinical faculty, who want to be involved in the shaping of the institution's future. The opportunity to partner with the internationally renowned Scripps Research Institute, in both teaching and clinical research activities, will also serve as an unparalleled advantage for the FAU clinical faculty recruitment efforts.

On Table 3-M below, all of the current UM clinical science faculty are shown as new hires in 2010 on existing vacant lines, with an asterisk after the "B" code in column 1 of the table. It is probable that a significant number of these UM faculty will be interested in continuing as faculty on the FAU medical school campus with FAU faculty appointments. Few of the current UM clinical faculty who are teaching on the FAU regional campus were previously full-time faculty teaching on the Miami campus and most of them live in proximity to the FAU Boca Raton campus. Although FAU will not necessarily want to retain all of the UM clinical faculty, the likelihood of successfully recruiting those that FAU does wish to retain is quite high. It is also likely that some of the current UM faculty who are recruited to become FAU clinical faculty will teach either more or less than they currently are. As a result the FTE for these UM faculty may be different than that indicated in Table 3-M.

There are over 100 community physicians, many of whom are lecturing on the regional campus, who have indicated a desire to become part-time or full-time clinical faculty and who have already been credentialed by the FAU regional campus Committee on Appointments and Promotion. These physicians will also serve as a potential source of clinical faculty for the FAU medical education program.

It is FAU's intention to recruit clinical faculty more strategically in the future than has been UM's practice to date for the 14.0 FTE UM clinical faculty currently teaching on the regional campus. Many of these UM faculty teach only part time (0.5 FTE or less). Going forward, as the number of residency programs affiliated with the independent FAU medical education program increases, FAU

will seek a number of individuals who have the experience and qualifications required to teach both medical students and residents.

FBOG TABLE ONE-M (Medical) NUMBER OF ANTICIPATED MAJORS FROM POTENTIAL SOURCES*

ACADEMIC YEAR	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		YEAR 8		YEAR 10	
Source of Students (Non-Duplicated Count in Any Given Year)	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	1	1	2	2	4	4	4	4	4	4	4	4	4	4
Students who transfer from other graduate programs within the university***	2	2	4	4	5	5	5	5	5	5	5	5	5	5
Individuals who have recently graduated from preceding degree programs at this university**	23	23	45	45	67	67	85	85	85	85	85	85	85	85
Individuals who graduated from preceding degree programs at other Florida public universities	26	26	51	51	78	78	100	100	100	100	100	100	100	100
Individuals who graduated from preceding degree programs at non-public Florida institutions	6	6	13	13	19	19	24	24	24	24	24	24	24	24
Additional in-state residents**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additional out-of-state residents**	6	6	13	13	19	19	28	28	28	28	28	28	28	28
Additional foreign residents**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (Explain)**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	64	64	128	128	192	192	246	246	246	246	246	246	246	246

* List projected yearly cumulative ENROLLMENTS instead of admissions starting with the first year of actual enrollment.
(Do not include planning years)

** Do not include individuals counted in any PRIOR category in a given COLUMN.

***If numbers appear in this category, they should go DOWN in later years.

HC = Headcount student FTE = Full-time equivalent student

DCU TABLE THREE –M
FACULTY PARTICIPATION IN PROPOSED PROGRAM BY FIFTH YEAR

Faculty CODE	Faculty Name or "New Hire"	Academic Discipline/Specialty	Rank	(For Existing Faculty Only)		Initial Date for Participation in Proposed Program	Workload in Proposed Program (Portion of Person-year) 5 th Year
				Contract Status (Tenure status or equivalent)	Highest Degree Held		
Department of Basic Science Faculty							
A	Azzarolo	Pharmacology	Associate	Contract	Ph.D.	2010	1.0
A	Burns	Microbiology	Associate	Contract	Ph.D.	2010	1.0
A	Nouri-Shirazi	Immunology	Assistant	Contract	D.V.M.	2010	1.0
A	Cunningham	Anatomy	Assistant	Contract	Ph.D.	2010	1.0
A	Brew	Bio-Engineering	Professor	Tenured	Ph.D.	2010	1.0
A	Caputi	RNA processing	Associate	Tenured	Ph.D.	2010	1.0
A	Guthrie	Neurobiology	Associate	Tenured	Ph.D.	2010	1.0
A	Iragavarapu	Immunology	Associate	Tenured	Ph.D.	2010	1.0
A	Isgor	Behavioral Science	Assistant	Tenure	Ph.D.		1.0
A	Kantorow	Ocular Diseases	Professor	Tenured	Ph.D.	2010	1.0
A	Li	RNA Metabolism	Associate	Tenured	Ph.D.	2010	1.0
A	Lu	Prostate Cancer	Associate	Tenured	Ph.D.	2010	1.0
A	Prentice	Ischemia & Anoxia	Associate	Tenured	Ph.D.	2010	1.0
A	Shen	Electrophysiology	Associate	Tenured	Ph.D.	2010	1.0
A	Shibata	Immunology	Professor	Tenured	Ph.D.	2010	1.0
A	Tao	Neuropharmacology	Associate	Tenured	Ph.D.	2010	1.0
A	Wei	Neurodegenerative Diseases	Assistant	Non Tenured	Ph.D.	2010	1.0
A	Wojcikiewicz	Atomic Force Microscopy	Assistant	Non Tenured	Ph.D.	2010	1.0
A	Wu	Neurological Disorders	Professor	Tenured	Ph.D.	2010	1.0
A	Huang	Internal Medicine	Associate	Tenured	M.D.	2010	1.0
Department of Clinical Science Faculty							
A	Friedland	Dean/Med. Ed.	Professor	Tenured	M.D.	2010	1.0
A	Markowitz	Assoc. Dean /Student Affairs	Professor	Contract	M.D.	2010	1.0
A	Paull	Anatomy	Professor	Tenured	Ph.D.	2010	1.0
A	Cresanta	Epidemiology	Associate	Contract	M.D.	2010	0.5
A	Levitt	Pathology	Professor	Contract	M.D.	2010	1.0
A	Rose	Internal Medicine	Associate	Contract	M.D.	2010	1.0
A	Greenwald	Internal Medicine	Professor	Contract	M.D.	2010	1.0
A	Schmidt-Kastner	Internal Medicine	Assistant	Contract	M.D.	2010	1.0
A	George Luck	Anesthesiology	Associate	Contract	M.D.	2010	0.4
A	Eisenberg	Neonatology	Assistant	Contract	M.D.	2010	0.3
A	Ouslander	Geriatrics	Professor	Tenured	M.D.	2010	1.0
A	Sarsekeyeva	OB/GYN	Assistant	Contract	M.D.	2010	1.0
A	Brickman	Surgery	Associate	Contract	M.D.	2010	0.8
B*	New Hire	Assoc. Dean/ UME.	Professor	Contract	M.D.	2011	1.0
B*	New Hire	Radiology	Professor	Contract	M.D.	2011	1.0
B*	New Hire	Asst. Dean/Med. Ed. & Faculty Develop.	Associate	Contract	M,D./ PhD	2011	1.0
B*	New Hire	Pediatrics	Associate	Contract	M.D.,	2011	0.6

B*	New Hire	OB/GYN	Assistant	Contract	M.D	2011	0.3
B*	New Hire	OB/GYN	Professor	Contract	M.D.	2011	1.0
B*	New Hire	Surgery	Associate	Contract	M.D.	2011	0.5
B*	New Hire	Pediatrics	Assistant	Contract	M.D.	2011	0.3
B*	New Hire	Psychiatry	Associate	Contract	M..D.	2011	0.5
B*	New Hire	Family Medicine	Associate	Contract	M..D.	2011	0.5
B*	New Hire	Internal Medicine	Assistant	Contract	M..D.	2011	0.3
B*	New Hire	Internal Medicine	Assistant	Contract	M..D.	2011	0.3
B*	New Hire	Internal Medicine	Professor	Contract	M..D.	2011	1.0
B*	New Hire	Internal Medicine	Professor	Contract	M..D.	2011	1.0
B*	New Hire	Internal Medicine	Associate	Contract	M..D.	2011	1.0
B*	New Hire	Internal Medicine	Assistant	Contract	M..D.	2011	0.3
B*	New Hire	Internal Medicine	Professor	Contract	M..D.	2011	1.0
B*	New Hire	Neurology	Associate	Contract	M.D.	2011	0.3
B*	New Hire	Pediatrics	Assistant	Contract		2011	0.3
B*	New Hire	Internal Medicine	Associate	Contract	M.D.	2011	1.0
B*	New Hire	Internal Medicine	Assistant	Contract	M.D.	2011	0.3
B*	New Hire	Internal Medicine	Associate	Contract	M.D.	2011	0.5
B	New Hire	Assoc. Dean/ Clinical Affairs & GME	Professor	Contract	M.D.	2011	1.0
B	New Hire	Internal Medicine	Professor	Contract	M.D.	2011	1.0
B	New Hire	Surgery	Professor	Contract	M.D	2011	1.0
B	New Hire	Surgery	Professor	Contract	M.D	2011	1.0
B	New Hire	OB/GYN	Professor	Contract	M.D	2011	1.0
B	New Hire	Pediatrics	Professor	Contract	M.D	2011	1.0
B	New Hire	Surgery	Professor	Contract	M.D	2012	1.0
B	New Hire	OB/GYN	Professor	Contract	M.D	2012	1.0
B	New Hire	OB/GYN	Associate	Contract	M.D.	2012	1.0
B	New Hire	Surgery	Associate	Contract	M.D	2012	1.0
B	New Hire	Pediatrics	Professor	Contract	M.D.	2012	1.0
B	New Hire	Anesthesiology	Associate	Contract	M.D.	2013	0.5
B	New Hire	Psychiatry	Associate	Contract	M.D	2013	0.5
B	New Hire	Internal Medicine	Associate	Contract	M.D.	2013	1.0
B	New Hire	Internal Medicine	Professor	Contract	M.D.	2013	1.0
B	New Hire	Internal Medicine	Associate	Contract	M.D.	2014	1.0
B	New Hire	Internal Medicine	Professor	Contract	M.D.	2014	1.0
A	Current General Revenue		Existing Faculty – Regular Line				31.0
B	Current General Revenue		New Faculty – To be Hired on Existing Vacant Line				30.0
C	New General Revenue		New Faculty – To be Hired on a New Line				
D	Contracts and Grants		Existing Faculty – Funded on Contracts and Grants				
E	Contracts and Grants		New Faculty – To Be Hired on Contracts and Grants				
			Overall Total for 5 th Year				61.0

* Indicates UM clinical faculty who are teaching on the regional medical campus during the 2009-10 academic year and paid by FAU via a professional services contract with UM

FAU INDEPENDENT MEDICAL EDUCATION PROGRAM BUDGET NARRATIVE

Revenues:

The \$12,672,795 in general revenue available to support an independent FAU medical education program reflects state budget cuts to total G.R. appropriations of \$14.4M.

FAU will commit to operate the program with no additional state G.R. appropriations.

Instructional, research and office space in the Schmidt Biomedical Science Center and instructional and office space being leased in the FAU Research Park are adequate to accommodate the program without the construction of additional facilities.

In order to indicate clearly that current general revenue funding levels and projected tuition revenue will be sufficient to operate the FAU medical education program, operating revenues from contracts and grants, clinical practice and community donations are conservatively estimated by design:

- Contracts and grants revenue reflects current net C & G funding to the Schmidt College of Biomedical Science. It is anticipated that the planned partnership with the Scripps Institute will result in a significant increase in C & G funding to FAU. However, during the 5 year ramp up, we are indicating a conservative growth pattern.
- No community donations are projected to support the program for the first five years. However, it is anticipated that more private donations will be made to an independent FAU medical education program than have been made to the UM-FAU regional medical campus.
- No net profit from faculty clinical practice is shown until 2015-16, when clinical revenue is estimated to be \$100,000. It is probable that an FAU faculty practice plan can be established during FY 2011-12 and that modest profits can be generated from the practice as early as FY 2012-13 or 2013-14.

Tuition receipts are calculated to assume that 90% of students will pay instate tuition of \$21,700 (average FY 2009-10 instate tuition charged by Florida public medical schools) and 10% of students will pay out-of state tuition (approx. \$30,000 more per student.)

As of FY 2009-10, FAU has approximately \$9.4 M in non-recurring carry-forward funding. This carry-forward has occurred because: (a) state funding for full regional medical campus enrollment has been received, although current enrollment is only 127 students; (b) UMMSM has hired fewer clinical faculty to date than FAU has budgeted for; and (c) in FY 2006-2007, FAU received a one-time appropriation of \$5.0 million with \$2.9 million held in reserve for future growth of the program. During the transition year (FY 2010-11) a total of \$500,000 in carry-forward funding will be used to purchase equipment and the print and electronic materials required for a core FAU medical library. Remaining carry-forward funds will be held in reserve for unanticipated non-recurring costs associated with implementation of the FAU medical education program.

The \$10.0 M in existing resources shown as a community donation is an endowment from the Schmidt Family Foundation received by FAU in 1998. Income from the endowment is used to provide biomedical research equipment to support the research faculty in the Schmidt College of Biomedical Science.

Expenditures:

FAU paid approximately \$2.2 M to UM in FY 2009-10. \$3.2 M has been budgeted for payments to UM in FY 2010-11. These payments appear as a line item in the "I & R Expense" under "Special Categories." The majority of these payments are for clinical faculty salaries. Beginning in 2011-12 and each year thereafter, the faculty effort previously contracted from UM is included in FAU faculty salaries and benefits.

The budget assumes that FAU will need to hire 30.0 FTE clinical faculty, in addition to the 11.0 FAU clinical faculty currently serving in the regional medical campus program (total of 41.0 FTE clinical faculty required by the time the medical education program reaches full enrollment). It is possible that some of the UM clinical faculty (14.0 FTE) currently teaching on the regional campus may be offered FAU clinical faculty appointments, although faculty will also be recruited regionally and nationally.

Expenditures for professional liability insurance are shown in "I & R Expense" under "Special Categories" beginning in Year 1 of the program.

The budget assumes that FAU will need to hire additional administrative and support staff to perform various functions (admissions/registrar, student services, financial aid, library, etc.) for the FAU medical education program. Salaries and benefits for the additional staff are phased in beginning in FY 2011-12.

By the time the FAU medical education program reaches full enrollment of 246 students, general revenue appropriations per medical student are projected to be \$51,515.

The budget assumes that start up funding will be required to support the research activities of some clinical faculty scientists who are recruited to the FAU medical education program. These funds are shown as Start Up Investments.

Enrollment:

The enrollment plan assumes that 64 students per year will enter the medical education program, beginning in fall 2011 and that 15 % of each entering class will be in the dual MD/PhD program. Students in the MD/PhD program will complete the MD component of the dual degree in 3 years. Therefore, beginning in year 4 (AY 2014-15), the medical education program will reach full enrollment of 246 students, which is 10 students less than the originally proposed 256 students, because of the accelerated MD/PhD program option.

FAU is committed to cooperating with UM to ensure that UM students enrolled in the FAU regional campus program have an orderly transition into UM Miami campus program. UM students may continue to be enrolled in the regional campus program during the 2010-11 academic year if this is necessary to minimize disruption to their academic progress. Therefore, the budget assumes that UM students enrolled at the regional medical campus during the 2009-10 academic year will all continue to matriculate the FAU campus during the 2010-11 transition year. However, it is not possible to predict what action UM may take regarding students currently enrolled on the regional campus as a result of the abrogation of the UM-FAU affiliation agreement. A committee comprised of equal numbers of UM and FAU representatives is being created to oversee the transition period.

INSERT FBOG TABLE 2M HERE

FBOG TABLE 2M

SUMMARY COSTS FOR PROPOSED DOCTOR OF MEDICINE

FINANCIAL SUMMARY (Constant 2005 Dollars)		Existing Resources		Planning Year		Classes Begin Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 10 Inflation adjusted
I & R EXPENSES																		
Faculty Salary and Benefits		\$5,047,468	\$5,047,468					\$9,365,550	\$10,465,550	\$10,965,550	\$11,265,550	\$11,265,550	\$11,265,550	\$11,265,550	\$11,265,550	\$11,265,550	\$11,265,550	\$11,265,550
A&P Salary and Benefits		\$1,390,289	\$1,390,289					\$1,520,289	\$1,715,289	\$1,780,289	\$1,975,289	\$1,975,289	\$1,975,289	\$1,975,289	\$1,975,289	\$1,975,289	\$1,975,289	\$1,975,289
USPS Salary and Benefits		\$456,000	\$456,000					\$542,000	\$585,000	\$774,550	\$774,550	\$774,550	\$774,550	\$774,550	\$774,550	\$774,550	\$774,550	\$774,550
Other Personnel Services		\$492,274	\$492,274					\$492,000	\$558,265	\$568,430	\$580,819	\$580,819	\$580,819	\$580,819	\$580,819	\$580,819	\$580,819	\$580,819
Expenses		\$1,396,764	\$1,396,764					\$1,468,756	\$1,690,291	\$1,922,996	\$2,307,787	\$2,338,183	\$2,338,183	\$2,338,183	\$2,338,183	\$2,338,183	\$2,338,183	\$2,338,183
Operating Capital Outlay		\$700,000	\$700,000					\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Electronic Data Processing								\$300,000	\$300,000	\$400,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000
Library resources								\$465,000	\$540,000	\$585,000	\$615,000	\$615,000	\$615,000	\$615,000	\$615,000	\$615,000	\$615,000	\$615,000
Special Categories		\$3,200,000	\$3,200,000					\$300,000	\$300,000	\$400,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000
Total I&R Expenses:		\$12,672,795	\$12,672,795					\$14,353,595	\$16,054,395	\$17,197,815	\$18,168,995	\$18,268,995	\$18,318,995	\$18,613,995	\$18,808,995	\$18,908,995	\$19,158,995	\$19,158,995
START-UP INVESTMENTS																		
Investment 1																		
Total Facilities Investments:																		
Gross Medical School Funds Required		\$12,672,795	\$12,672,795					\$14,353,595	\$16,054,395	\$17,447,815	\$18,568,995	\$19,068,995	\$19,088,995	\$19,113,995	\$19,158,995	\$19,158,995	\$19,158,995	\$28,822,593
RECEIPTS																		
Tuition		N/A	N/A															
Community donations								\$1,580,800	\$3,161,600	\$4,555,020	\$6,076,200	\$6,076,200	\$6,076,200	\$6,076,200	\$6,076,200	\$6,076,200	\$6,076,200	\$6,076,200
Clinical Practice Plan (NET)		\$10,000,000						\$100,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000	\$220,000
Contract and Grant (NET)																		
Other																		
Total Receipts:		\$10,000,000						\$1,680,800	\$3,381,600	\$4,775,020	\$6,296,200	\$6,396,200	\$6,396,200	\$6,441,200	\$6,486,200	\$6,486,200	\$6,486,200	\$6,486,200
Net Medical School Funds Required								\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$16,474,634
STATE APPROPRIATIONS																		
Recurring																		
Headcount G.R. Appropriation		\$12,672,795	\$12,672,795					\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795	\$12,672,795
Per Headcount Appropriation																		
Non-Recurring																		
G.R. Special Appropriation								\$198,012	\$98,006	\$66,004	\$51,515	\$51,515	\$51,515	\$51,515	\$51,515	\$51,515	\$51,515	\$51,515
PECO																		
State Match - Contributions																		
FEDERAL APPROPRIATIONS																		
Faculty Hiring Schedule																		
Basic Science Faculty		20						20	5	3	2							
Clinical Science Faculty		11							4	5	5							
Affiliated Faculty (Headcount)		71																
Other																		
Total I&R faculty		31						51	56	59	61							
Students		128	128					64	128	192	246	246	246	246	246	246	246	246
Optional Narrative to Explain Budget Information																		

APPENDIX 1

Dr. Michael Whitcomb's Study

Introduction

In January 2006, the University of Miami (UM), Florida Atlantic University (FAU), and the Boca Raton Community Hospital (BRCH) entered into an agreement (Regional Academic Medical Center Agreement) to establish an academic medical center on the campus of FAU in Boca Raton, Florida (UMMSM@FAU). The agreement is far reaching in scope. It includes provisions calling for the development on the FAU campus of a four-year, separate track, undergraduate medical education program of the University of Miami Miller School of Medicine (UMMSM); the construction by BRCH of a new hospital on the campus; the development of graduate medical education programs in the new hospital and other hospitals in the county; the development of a UMMSM clinical practice group in Boca Raton; the development of a collaborative research program; and the establishment of joint initiatives for private fund raising. Despite the incredibly far reaching scope of the agreement, none of the provisions called for the conduct of periodic external reviews to monitor the state of implementation of the various initiatives.

It is also noteworthy that the agreement did not establish a review process that would allow the parties to monitor the use of the funds appropriated by the Florida legislature in support of the UMMSM@FAU (the Program) to ensure that the funds were being used to serve the interests of the public in the best way possible. However, the agreement does acknowledge that the FAU President has ultimate authority over how FAU and State of Florida resources are to be used in support of the agreement. Recognizing his responsibility to be accountable for the use of those resources, the President commissioned an external review to document the current state of implementation of the Regional Academic Medical Center Agreement. The purpose of the review is to determine if the agreement is being implemented in a way that serves the best interests of FAU and the citizens of the State. This report summarizes the findings of that review.

The findings presented in the report are based on information obtained from a variety of sources. Prior to interviewing a number of individuals actively involved in various aspects of the Program, a number of documents relevant to the development and implementation of the UMMSM@FAU program were reviewed in detail.

- Regional Medical Campus at FAU: A Better Way (Presentation to the Florida Board of Governors, March 2005)
- Business Plan for an Affiliation Supporting the Regional Academic Medical Campus in Boca Raton, Florida (The Lewin Group, January 2006)
- Regional Academic Medical Center Agreement (January 2006)
- Strategic Plan: University of Miami Miller School of Medicine at Florida Atlantic University 2007-2012
- University of Miami Miller School of Medicine Regional Medical Campus Self-Study (March 2008)

Interviews were then conducted with individuals holding key positions relevant to the implementation of the Program.

- UMMSM@FAU faculty and administrative staff responsible for the educational program at FAU
- Chief executive officers at several hospitals in Palm Beach County
- Chief medical affairs officers at several hospitals in Palm Beach County
- UMMSM@FAU financial affairs staff
- UMMSM@FAU institutional planning staff

During the course of the various interviews, it was also possible to review internal documents that provided insight into certain operational issues (e.g. invoices submitted by UMMSM, faculty salary structure for full time clinician educators based at FAU, etc).

Following the development of a draft report, it was possible to review an independent consultant report completed earlier in the year (Educational Program Consultant Report, May 2008).

Background

The development of the UMMSM@FAU is a natural extension of a relationship between UM and FAU that began in the late 1990s. At that time the State of Florida approached UM to explore the possibility that the university's medical school might be willing to establish an undergraduate medical education program at one of the public universities in South Florida. The state was interested in establishing such a program, because at that time none of the public universities in that region contained a medical school. Early discussions focused on the development at either Florida Atlantic University or Florida International University of a Program in Medical Sciences (PIMS) similar to the program conducted by the University of Florida College of Medicine at Florida State University. Following a series of discussions, the Florida legislature appropriated funds in 1999 to support planning for a UMMSM PIMS at FAU.

In the ensuing years, the UMMSM presence at FAU expanded well beyond the PIMS. A two year regional campus program (Partnership for Quality Education) with an enrollment of thirty-two students was established in 2004, and the next year UMMSM and FAU submitted a proposal to the Board of Governors to expand the program to a full four year program with a total enrollment of two hundred and fifty-six students. Once approved, the terms governing the implementation of the educational program became embedded within the Regional Academic Medical Center Agreement of 2006.

The educational program that exists at FAU is unique in that it represents a partnership between a private and a public university. Although the program is located on the campus of a public university and is almost entirely financed by public funds, the program is administratively situated for accreditation purposes within UMMSM, and the students who graduate from the program receive the M.D. degree from UM. The first class of thirty-two students enrolled in the four year program in August 2007, and a second class of forty-eight students will be enrolled in late summer 2008.

At the present time, there are two other four-year, separate track programs in this country. The first of these was established as a partnership between the Case Western Reserve University (CWRU) School of Medicine and The Cleveland Clinic. Under the terms of the agreement, CWRU established The Lerner College of Medicine of Case Western University at The Cleveland Clinic. While graduates receive the M.D. degree from CWRU, the educational program is distinct from that offered by the University

Program at CWRU in that it is a five year program which emphasizes training for careers in clinical research. The second program is one established by the University of Arizona (UofA) College of Medicine. The U of A has partnered with Arizona State University in Tempe, Arizona, to create a four-year, separate track program on a newly established Biomedical Research Campus in Phoenix.

The institutions involved in the development of those four-year, separate track programs have begun to encounter very real challenges related to the management and administration of the programs. In a relatively short time, it has become apparent that the establishment of the programs has led to conflicts between the institutional partners. It is now clear that the creation of a distinct medical school campus at a regional site distant from the parent medical school leads to a series of almost inevitable conflicts once the regional campus has begun to develop its own identity. Not surprisingly, the flow of funds from one institution to the other and the centralization of programmatic control at the parent school are at the core of many of the conflicts. But it is also the case that efforts by the parent medical school to develop clinical care programs in the community where the regional campus is located has led to significant conflicts with local physicians and health care organizations, which have affected adversely the standing of the local university in its community.

Regional Academic Medical Center Agreement Key Provisions

As noted above, the development of the UMMSM@FAU is a collaborative venture involving UMMSM, FAU, and BRCH. Key provisions included in the Regional Academic Medical Center Agreement relate not only to the development of an undergraduate medical education program on the FAU campus, but also to the construction of a new teaching hospital on the campus, the development of new graduate medical education programs in the region, the development of a clinical practice group in Boca Raton, and the development of collaborative research and private fund raising programs. Key elements of the agreement are summarized below.

Governance and Management

A ten person Affiliation Committee was to be established to fully implement the Program and coordinate decisions concerning it. The committee was to be composed of three persons appointed by the UMMSM Dean, three persons appointed by the FAU President, three persons appointed by the BRCH President, and the Regional Dean of the Program. The committee, which is chaired by the UMMSM Dean, is responsible for joint planning, operational coordination, and dispute resolution. Importantly, the committee is charged with the development and ratification of annual operating budgets. The committee was also to develop a Strategic Plan for the development of the program by 1 July 2006.

A qualified physician holding a UMMSM faculty appointment was to be appointed as the Regional Dean. The individual is to exercise customary authority over the Program consistent with the provisions of the agreement, subject to the authority of the FAU President over the use FAU and State of Florida resources and the ultimate academic authority of the UMMSM Dean. The Regional Dean reports to the UMMSM Dean, the FAU President, and the Affiliation Committee (the Regional Dean happens also to be a member of the Affiliation Committee). The UMMSM Dean may remove the Regional Dean after consultation with the FAU President and the BRCH CEO. The Regional Dean's dual responsibility to

FAU and UMMSM was to be more fully defined in a separate agreement between FAU and UMMSM.

The Program was to operate on the basis of an Annual Approved Budget that was to be developed and ratified by the Affiliation Committee. FAU is to pay for educational expenses from state funds as set forth in the Approved Budget. UMMSM is entitled to receive and retain all tuition and fee revenues. Students enrolled in the UMMSM@FAU Program are to pay UMMSM tuition, and UMMSM is to make reasonable efforts to provide scholarship support that will over a reasonable period of time make the tuition comparable to tuition and fees charged at Florida's public medical schools. BRCH is to pay Annual Academic Support of \$750 K to UMMSM once the land transaction between FAU and BRCH is effectuated.

It is noteworthy that the agreement also allows UMMSM to establish other affiliations in Palm Beach County as long as they are at least ten miles distant from the location of BRCH and FAU in Boca Raton. FAU is precluded from entering into comparable affiliations unless UMMSM agrees to the affiliation, or FAU determines it has made a reasonable effort to involve UMMSM in the proposed affiliation activity.

Undergraduate Medical Education

UMMSM committed to the development of a regional medical education program as a fully integrated component of the UMMSM undergraduate medical education program accredited by the Liaison Committee on Medical Education (LCME). UMMSM agreed to appoint individuals base at FAU as UMMSM faculty in accordance with the UMMSM Faculty Manual standards, and to integrate them fully in UMMSM programs, committees, educational opportunities, and other appropriate activities. FAU committed to make available instructional facilities, as well as the support services and space required for the educational program. FAU is to provide all student support services required by the LCME. UMMSM agreed to explore the possibility of establishing joint degree programs at FAU under an acceptable financial and operational model.

FAU is to pay the costs of the basic science and medical education faculty who are required to meet the educational needs of the program as determined by the UMMSM Dean in consultation with the Regional Dean. The Dean, in consultation with the Regional Dean, may approve the allocation of salary support for all program faculty. Given the challenges of developing an adequate faculty for the educational program, which must include full time clinical faculty, BRCH medical staff members, and community-based practitioners, the parties agreed to jointly develop a Strategic Staffing Plan by 30 September 2006. Preliminary staffing plans for three departments were to be completed no later than 15 September 2006.

Graduate Medical Education

The parties committed to cooperating in establishing GME programs in hospitals in the county. BRCH was to serve as the Institutional Sponsor for programs developed at BRCH, and FAU (and/or UMMSM) was to serve as the Institutional Sponsor for programs developed at other affiliated hospitals. The Institutional Sponsors were to develop a GME plan by 30 June 2006. The number of residents at BRCH and the sites for clinical experiences were subject to the approval of the UMMSM Dean in consultation with the Regional Dean. The Institutional Sponsors were to employ the residents enrolled in the programs, and thus were to be responsible for providing salary and fringe benefits. The sponsors were to recover the costs from the involved hospitals, which are entitled to recover federal

reimbursement in accordance with applicable law. It was anticipated that GME programs in internal medicine, surgery, and obstetrics/gynecology would start at the new BRCH hospital in 2009.

Faculty Practice

UMMSM agreed to establish a Faculty Practice Group (FPG) to provide clinical practice opportunities for faculty based in Boca Raton. UMMSM alone is responsible for the policies, management, and finances of the practice and retains the operating margins. The management of the FPG is solely under the authority of UMMSM, and the "Dean's Tax" (to be determined solely by the UMMSM Dean) generated by billings for clinical services was to support the academic functions of UMMSM that make possible the accredited program. UMMSM may enter into clinical practice affiliations with other institutions as long as they are located at least ten miles from BRCH and FAU. UMMSM or the FPG was to be reimbursed fairly by FAU for the cost of academic services performed by FPG physicians pursuant to an Approved Budget.

Research

The parties agreed to systematically explore opportunities for combining existing research strengths at UMMSM with those at FAU and BRCH, and to produce a strategic research portfolio that could increase their research productivity and standing, and thereby help to recruit research leaders.

Philanthropy

As soon as sensible, the parties agreed to establish a plan to create a permanent endowment of at least \$25 million to support the Program. BRCH was to use its best efforts (with the cooperation of UMMSM and FAU) to raise the funds required. The funds were to be used both to offset tuition costs of students and to support other program purposes as determined by the Dean in consultation with the Affiliation Committee.

The parties were to develop no later than 30 September 2006 a Coordinated Development Plan which would specify top priorities for support and equitably allocate donor funds in support of the Strategic Plan for UMMSM@FAU.

New Teaching Hospital

BRCH committed to use its "best efforts" to construct and open a new hospital on the FAU campus as soon as feasible (projected for 2011). BRCH also committed to pay fair market value for services provided to BRCH by UMMSM@FAU faculty. Payment was to be made to the involved individuals or to their respective employers. A Professional Services Agreement was to be developed to govern payment for services provided.

Regional Academic Medical Center Agreement State of Implementation

The affiliation agreement has been in place for two and one-half years. The state of implementation of the key provisions of the agreement is presented below.

Governance and Management

The Affiliation Committee called for in the agreement has been established and has met on several occasions. It appears, however, that meetings of the Affiliation Committee have been held sporadically, and that scheduled meetings have been cancelled on a number of occasions. In order to guide the implementation of the agreement, a committee was appointed to develop a Strategic Plan for the period 2007-2012. The plan developed by the committee sets forth in more detail some of the specific objectives to be achieved in the development of the Program.

Of particular note, the Affiliation Committee, which is chaired by the UMMSM Dean, has not developed or ratified a budget for the operation of the Program. At present, UMMSM submits invoices for expenses that UMMSM staff apparently believe should be paid for by state funds appropriated to FAU. Since there is no agreement in place clearly defining financial responsibility for various expenses, the invoices are not automatically honored by FAU staff. Each invoice creates a situation in which FAU and UMMSM staffs find themselves in conflict over certain expense items. FAU staff believe that some of the expenses incurred by UMMSM at Miami, which appear on the invoices, should be covered by the tuition revenue collected and retained by UMMSM.

A Regional Dean has been appointed, but a separate agreement between FAU and UMMSM defining the dual responsibility of the Regional Dean to FAU and UMMSM, as called for in the agreement, has not been developed. The lines of authority and responsibility of the Regional Dean have been blurred recently by the appointment of an Executive Dean for Clinical Affairs by the UMMSM Dean. The agreement is silent on the development and existence of such a position. The range of responsibilities set forth in the individual's job description overlaps with those of both the Regional Dean and the Senior Associate Regional Dean for Medical Education.

The recruitment and appointment of new faculty has proven to be cumbersome for FAU because of the policies and practices in place at UMMSM. As a result of those policies, salaries for individuals based at FAU who have identical responsibilities can vary significantly. At the present time, no FAU based faculty member serves on any college or departmental committee at UMMSM and no UMMSM based faculty member serves on a committee at FAU.

Undergraduate Medical Education

In 2005, the Liaison Committee on Medical Education (LCME) approved FAU as a site for the development of a four-year, separate track program of the UMMSM. Accordingly, faculty and staff of FAU, working in collaboration with faculty and staff at UMMSM, proceeded with the development of the educational program. In 2007, thirty-two students enrolled in the program. Forty-eight students will be enrolled in the program this coming year.

The admission process for the initial class was managed almost entirely at the Miami campus of UMMSM, and at the present time certain student affairs activities continue to be managed there. For example, the Office of Student Financial Assistance is based entirely at UMMSM. However, all of the other student affairs activities are now conducted at least to some degree on the FAU campus.

Although the UMMSM Dean retains administrative responsibility for the program for accreditation purposes, the FAU faculty, the Regional Dean, and the Regional Dean's staff are largely responsible for the design and conduct of the UMMSM@FAU curriculum. The curriculum conducted at FAU varies in important ways from the curriculum conducted at the UMMSM Miami campus. It should be noted that it is much more consistent with the trends in curriculum development occurring in medical schools across the country.

The first two years of the FAU curriculum are structured as a series of integrated modules that emphasize small group, case-based learning experiences. This approach varies significantly from the very traditional program conducted in Miami. It is also noteworthy that the FAU program begins with a three week course (Introduction to the Medical Profession) that focuses the students' attention at the very outset of their study of medicine on the importance of a number of issues that relate to the role of physicians in society. This course is not a part of the educational program in Miami. In addition, the students at FAU have the opportunity during the initial two years to experience the major clinical challenges facing American medicine by spending two half-days each week in a clinical practice setting (public health clinics). Students at Miami have limited clinical experiences in the first two years.

Efforts are now underway to develop operating agreements with clinical partners (hospitals and other clinical practice sites), which will provide the required clinical experiences for medical students in Year-3 of the educational program at FAU. The clinical experiences offered by FAU will be quite different from those offered in Miami. Instead of the traditional clerkship model employed in Miami, students at FAU will participate in integrated clerkship experiences that will emphasize the management of patients with chronic illness, and provide students the opportunity to establish longitudinal relationships with a panel of patients, as well as with faculty preceptors.

Graduate Medical Education

The academic affiliation agreement includes provisions governing the development of new graduate medical education (GME) programs in BRCH, as well as identifying additional sites for the development of new programs. The Regional Dean initiated discussions regarding the development of GME programs with officials of various hospitals in the county soon after the agreement was in place. In the course of those ongoing discussions, UMMSM staff unilaterally assumed primary responsibility for that activity. During the past year, the UMMSM Dean established a new administrative position at FAU - Executive Dean for Clinical Affairs - and vested the individual appointed to the position with the responsibility for developing GME programs in Palm Beach County. FAU staff are not involved in the process despite the fact that the development of GME programs in the county is a critical issue for the FAU undergraduate medical education program. This is an important issue because the accrediting body (LCME) strongly recommends that medical students have some interactions with residents in training during their clinical clerkship experiences.

The only new GME program that has been developed in the county to date (residents to begin in July 2008) is an internal medicine program based at JFK Hospital (in collaboration with the local Veterans Administration Hospital). After the planning process was well underway, UMMSM staff imposed themselves in the development of the program and ultimately limited JFK's ability to fill PGY-3 positions with transfers from other programs. There is very limited activity underway for the development of additional programs in other hospitals in the county. It is clear that BRCH, which was

to be the primary site for GME program development, will not establish new programs within the timeframe set forth in the agreement. It is also clear that the distribution of GME programs proposed by the Strategic Planning Committee will not be realized within the timeframe set forth in the Strategic Plan document.

Since the supply of physicians for the state is related to the number of residents training in state GME programs, rather than the number of students enrolled in state medical schools, the development of new GME programs is an issue of great importance to the State of Florida. This issue was central to the debate that occurred at meetings of the Florida Board of Governors during 2006 when the Board was considering whether to approve the development of two new medical schools in the state.

Faculty Practice

UMMSM is entirely responsible for the development of a clinical practice group in Palm Beach County. A very small practice has been established on the FAU campus. No significant clinical practice agreements have been reached with hospital medical staff members based at any of the local community hospitals. It is clear that hospital officials are quite concerned about the UMMSM desire to establish a clinical practice presence in the county and would prefer that any practice arrangements be organized and managed by FAU.

Research

No substantive collaborative research efforts between faculty based in Miami or on the FAU campus have developed. There is at present no strategic plan for accomplishing that objective. The lack of a joint initiative agreement creates obstacles for the development of a more robust research program at FAU because of uncertainty over the focus of future joint research efforts.

Philanthropy

No substantive joint efforts have been initiated. The Coordinated Development Plan called for in the agreement has not been developed.

New Teaching Hospital

BRCH has indicated that it will not meet the timeframe set forth in the agreement for the construction of a new hospital on the FAU campus. Because of the hospital's current financial situation, it is unlikely that it will be able to do so at any time in the near future.

Implementation of Agreement: Summary Analysis

The Regional Academic Medical Center Agreement has been in effect for two and one-half years (Ten Year Term). It is quite clear that a number of the objectives set forth in the agreement have yet to be realized. Perhaps more important is that it appears unlikely that many of the key objectives will be realized in the near future. There are four key provisions of the agreement that have not, or will not, be accomplished in a timely manner.

1) Most important is that the development of a new teaching hospital on the FAU campus will not occur in the timeframe set forth in the agreement, and given BRCH's financial situation, it is unlikely to occur during the Term of the Agreement. As a result, the development of an academic medical center in Boca Raton is almost certainly not going to be realized within a reasonable period of time.

2) Also of critical importance is that annual operating budgets defining the responsibility that FAU and UMMSM have for program expenses have not been developed during the two and one-half years that the agreement has been in effect. The Affiliation Committee, chaired by the UMMSM Dean, is responsible for seeing that such agreements are in place. Since the Affiliation Committee has failed to develop annual operating budgets, it is not possible to show that there is agreement among the parties on how FAU and State of Florida resources should be used in support of the Program. In the absence of approved budgets, it is not possible to be certain that there is agreement among the parties on how the funds should be used to best serve the public's interest. The invoices submitted by UMMSM in the absence of an approved budget show rather clearly that significant disagreement exists between UMMSM and FAU on the appropriate use of the funds.

3) It is also noteworthy that a number of the planning documents that relate primarily to the FAU-UMMSM relationship have not been produced. For example:

- Dual agreement between FAU and UMMSM defining the joint responsibilities of the Regional Dean to FAU and UMMSM
- Strategic Staffing Plan defining the need for clinical faculty
- Coordinated Development Plan
- Development of a strategic research portfolio

4) Finally, it should be noted that the UMMSM Dean has recently appointed an individual to a previously, non-existent senior administrative position at FAU (Executive Dean for Clinical Affairs). This appointment has created a significant degree of administrative confusion for several key programmatic efforts underway in Boca Raton and Palm Beach County, because responsibilities included in the job description for the new position overlap with responsibilities set forth in the job descriptions of the Regional Dean and the Senior Associate Regional Dean for Medical Education.

It should be noted that the findings noted above that relate to organizational and administrative arrangements between UMMSM and FAU are entirely consistent with findings made by a previous educational program consultant. The two external reviews were conducted entirely independent of each other.

Affiliation Agreement: Opportunity Costs for FAU

Given the current state of implementation of key provisions of the affiliation agreement, it is clear that the agreement is not serving the primary purpose for which it was established. Accordingly, the agreement is not serving the purpose for which FAU and State of Florida resources were committed. Given this situation, it is appropriate for the university to consider how those resources might be used to better serve the public's interest. And in that regard, it is appropriate to consider whether the resources could be better used to serve the development of FAU as a more comprehensive public university by establishing an independent medical school on the campus.

To put that issue in perspective, it is important to recognize that the existence of a medical school within a university clearly contributes to the university's prestige within the academic community. To a very great extent this results from the fact that universities with medical schools rank among the leaders in receiving both federal and private support for the conduct of research, and strong biomedical and health services research programs affect positively a number of academic programs conducted by other colleges within the university.

But the existence of a medical school also enhances the prestige of the university within the community where it is located. This occurs because medical schools, unlike other academic units within the university, are highly visible to the citizens living in the communities where the schools are located, primarily because the school's clinical faculty often provide specialized health care services and conduct cutting edge clinical and translational research within the community. The prestige that accrues to a public university as a result of the medical school presence benefits the institution by enhancing private support for the university from individuals within the community, as well as generous support from state government.

There is no question that an independent medical school will have a far greater impact over time on the evolution of FAU as a more comprehensive university than will the continued existence of the current UMMSM@FAU Program. It is now clear from experience across the country that a four-year, separate track program seriously limits the benefits that might accrue to a university if it operated its own independent medical school, primarily because the regional campus site is not free to invest resources in developing its own research, clinical care, and community services programs. As is the case with the Regional Academic Medical Center Agreement, and the agreements that have established to govern separate track programs elsewhere in the country, the parent medical school retains a great deal of control over the establishment of those programs and how they are branded (which university gets credit). Accordingly, the medical school's parent university will be identified within the community as the responsible institution and, therefore, is likely to reap any benefits that might be forthcoming.

It is very clear that if FAU wishes to continue to evolve as a comprehensive university, the current agreement carries with it a substantial opportunity cost for the university. That is, FAU agreed on entering into the agreement to forego acquiring funds that could be used to invest in further development of the university, an almost universal practice by universities that have their own medical schools. To put this in perspective, it is useful to examine the financial advantages that accrue to UMMSM under the terms of the current agreement.

Under the current agreement, the existence of the UMMSM@FAU Program provides revenue to UMMSM well in excess of the program costs borne by UMMSM. Since this revenue can be invested in the development of other UMMSM academic ventures, it provides a tremendous benefit to UMMSM. There are three important sources of revenue involved.

- The terms of the affiliation agreement between the institutions allows UMMSM to charge students attending FAU the same private school tuition that is charged to students enrolled at UMMSM. At full enrollment, the tuition and fees revenue will exceed \$7.5 million. UMMSM is entitled to retain all of the net revenue after covering its share of the expenses of the program. Although there is no actual accounting of the UMMSM expenses, the amount will be well below the collected revenue.

- UMMSM is in the process of establishing a faculty practice group in Boca Raton, which will be a part of the school's faculty practice group. Under the terms that govern the plan's finances, the faculty practice activities in Palm Beach County will be required to pay a Dean's Tax to UMMSM, and the funds that are realized can be used at the discretion of the UMMSM dean.
- UMMSM is to receive an Annual Academic Support payment of \$750 K from Boca Raton Community Hospital.

Under the terms of the agreement UMMSM may invest those funds in programs of interest to UMMSM without regard for how those programs might benefit FAU. It is also important to recognize that the UMMSM @FAU Program has provided UMMSM a presence within Palm Beach County from which it can expand its interest in growing its clinical practice activities and in private fund raising efforts. These efforts are already well underway.

Given the current status of the Regional Academic Medical Center Agreement, FAU needs to consider how it can best position itself to become a more comprehensive university. There is no question that the development of its own medical school would contribute greatly to that effort by eliminating the opportunity costs that FAU currently bears. In considering its ability to become an independently accredited medical school, it is important to note that the development and implementation of the educational program at FAU by FAU based faculty and staff is the singular positive accomplishment of the affiliation agreement. Therefore, FAU has demonstrated already its ability to develop and implement a cutting edge undergraduate medical education program that will undoubtedly be accredited by the LCME. The educational program consultant who recently reviewed the program reached this same conclusion.

It is interesting to note that UMMSM's reputation also benefits from the educational program at FAU. The existence of the UMMSM@FAU program distinguishes UMMSM from almost all other medical schools in the country because of the unique nature of the private-public partnership that exists (the medical school of a private university partnering with a public university to create a four-year, separate track program). In addition, UMMSM can claim to be among the national leaders in innovation in medical student education by virtue of the nature of the curriculum established at FAU even though the curriculum was developed primarily by FAU based faculty and staff. Both of these features of the relationship affect positively how UMMSM is viewed by those in the medical education community nationally.

Since the current agreement is, from a practical sense, null and void, the university has an opportunity to build on the current experience gained in developing the four-year, separate track program to develop its own medical school. In considering that option, the university needs to weigh what is in best interest of the university and the citizens of the state. The lessons learned from the current partnership relationship, as well as those emanating from similar relationships across the country, should inform the thinking of university officials, as well as state officials, in deciding how to proceed. The opportunity costs involved should be uppermost in the minds of FAU officials as they consider how to restructure the current agreement.

APPENDIX 2

Tripp Umbach Economic Impact Study: An Independent FAU Medical Education Program

F L O R I D A A T L A N T I C
U N I V E R S I T Y

July 11, 2009

ECONOMIC IMPACT
UNIVERSITY OF MIAMI MILLER SCHOOL OF MEDICINE
AT FLORIDA ATLANTIC UNIVERSITY
CURRENT, FUTURE AND POTENTIAL IMPACT

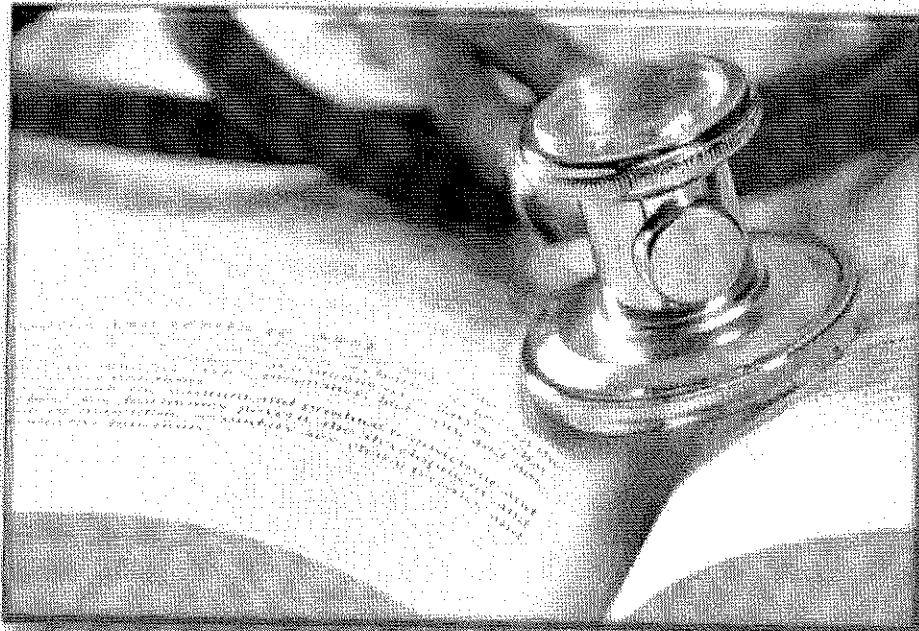


Table of Contents

Chapter 1: Introduction	2
Project Overview	2
Project Objectives	2
Project Methodology	3
Chapter 2: Economic Impact of UMMSM at FAU	4
Overview	4
Economic Impact	6
Employment Impact	8
Government Revenue Impact	10
Conclusion	11
Chapter 3: Impact of an Independent FAU School of Medicine	12
Overview	12
Potential Economic Impact	12
Conclusions	17
Chapter 4: Impact of Bioscience Industry in Florida	18
Introduction	18
Key Findings	19
Implications for FAU	19
Glossary of Terms	20
Linear Cash Flow Methodology	21
2007 Analysis of the Bioscience Industry in Florida	24

Chapter 1: Introduction

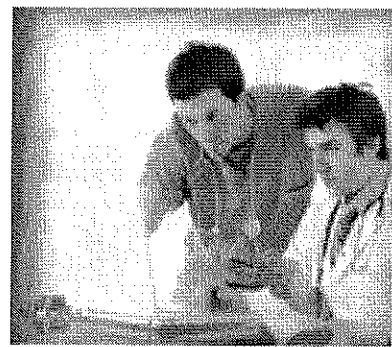
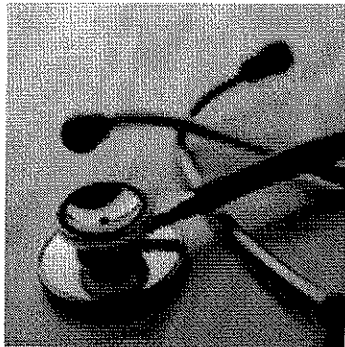
Project Overview

In March 2009, Florida Atlantic University retained the services of Pittsburgh-based research firm Tripp Umbach to analyze the current, future and potential impact of the University of Miami Miller School of Medicine at Florida Atlantic University (UMMSM at FAU). Tripp Umbach developed customized models that calculate the economic, employment and government revenue impacts associated with the current operations of UMMSM at FAU and its future impact as a mature regional campus. Tripp Umbach also developed a scenario which examines the potential of an FAU owned and operated medical school not affiliated with the University of Miami.

Project Objectives

FAU required a program of economic impact research that:

- Profiled the economic benefits associated with the operations and partnerships of the current (2008) UMMSM at FAU's operations on the state of Florida and the Southeast Florida region where FAU has operations and relationships.
- Measured the prospective economic, employment, and government revenue impacts of an expanded four-year FAU regional campus in 2015 and 2025 under various future scenarios.
- Quantified the economic and social value that an FAU expanded four-year program will have on the state of Florida in terms of community health improvement, research and education, and placement of future healthcare workers.
- Quantified the economic, employment, and government revenue impacts associated with hospital partnerships, graduate medical education, and the clinical enterprises in the region.



Project Methodology

To calculate the economic impact of UMMSM at FAU on the state of Florida and Southeast Florida, Tripp Umbach used a methodology derived from the original set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area (described in *Linear Cash Flow Methodology* in the appendix). Tripp Umbach also obtained raw and secondary data from Florida Atlantic University, hereafter noted as 2008 data.

Chapter 2: Economic Impact of UMMSM at FAU

Overview

In 2004, Florida Atlantic University partnered with the University of Miami's Leonard Miller School of Medicine to establish a regional campus of the Miller School of Medicine at Florida Atlantic University's Boca Raton campus. This unique public/private partnership enables students to complete their medical education in Boca Raton, FL. The University of Miami Miller School of Medicine at Florida Atlantic University (UMMSM at FAU) is one of only ten medical schools in the United States to receive an Association of American Medical Colleges (AAMC) grant, supported by the Josiah Macy Foundation, to enhance medical students' and medical residents' ability to care for patients with chronic diseases.¹



The regional campus at Florida Atlantic University is fully accredited under the accreditation granted to the University of Miami School of Medicine by the Liaison Committee on Medical Education (LCME), the accrediting body for all MD-granting medical schools in the United States and Canada. Enrollment at UMMSM at FAU is currently limited to 64 students per class when it reaches capacity; however, the school is currently enrolling 48 students per class.² Plans originally called for the construction of a new teaching hospital in coordination with Boca Raton Community Hospital on the UMMSM at FAU campus. However, following successive budgets deficits, the hospital delayed its participation indefinitely in 2007.^{3,4,5,6} At the time of writing this report, it is unclear what the relationship with Boca Raton Community Hospital will be in the future.

¹ Florida Atlantic University: University Communications and Marketing (2006-06-20). University of Miami Miller School of Medicine at FAU Receives Grant to Enhance Patient Care with Chronic Diseases Press release.

² "UMMSM at FAU Questions". Florida Atlantic University. Retrieved on April 6, 2009.

³ "UMSM@FAU". The University of Miami. Retrieved on April 6, 2009.

⁴ "UMMSM at FAU Questions". Florida Atlantic University. Retrieved on April 6, 2009.

⁵ PNN Online (2006-01-30). Boca Raton Community Hospital Receives \$75 Million. Press release. Retrieved on 2007-10-12.

⁶ Pensa, Patty (2008-01-05). "Boca Raton Community Hospital loses \$28 million, replaces CEO: Plan to build teaching facility set back". South Florida Sun-Sentinel.

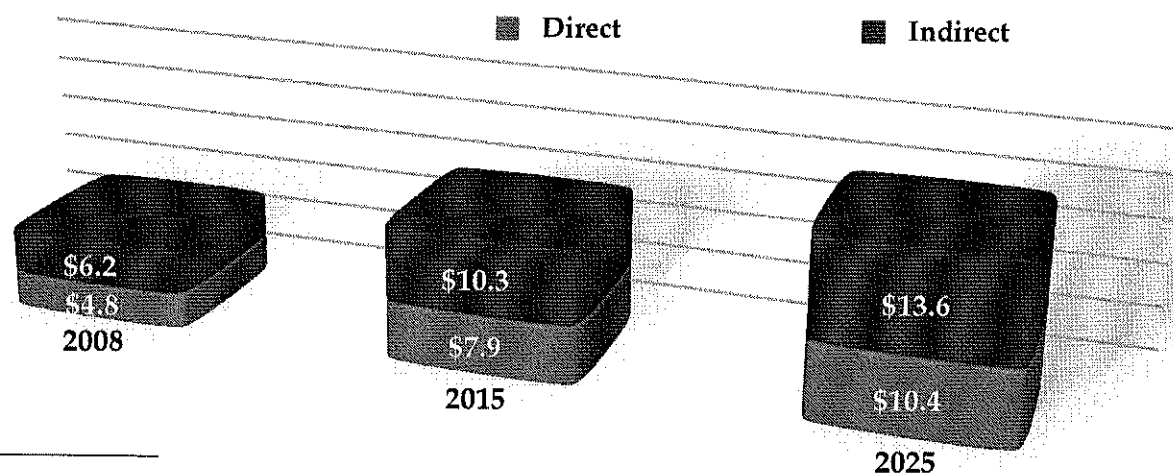
The goal of this portion of the study is to quantify the economic impact of UMMSM at FAU upon the state of Florida and Southeast Florida. For the purposes of this analysis, Southeast Florida is defined as Palm Beach, Broward, Martin, Indian River, Okeechobee and St. Lucie counties. The impact numbers presented reflect only the impact of the regional campus and do not include numbers for staff, faculty and other operational impacts employed by the main campus of the school of medicine based in Miami. It is also noteworthy that currently there are only very modest research revenues and no clinical practice revenue associated with the regional campus.

Economic Impact

In 2008, the business volume operations of UMMSM at FAU generated more than \$11.0 million of business volume impact⁷ annually on the state of Florida. This impact can be divided into two parts: direct and indirect. In 2008, the direct impact⁸ of UMMSM at FAU was \$6.2 million and stems from the spending by the medical school for capital improvements, goods and services, the spending of staff and faculty, the spending of medical trainees, and the spending (external to the institution) of visitors to the proposed school. The indirect impact⁹ of UMMSM at FAU in 2008 was \$4.8 million and is derived from the direct, first-round expenditures, which will be received as income by businesses and individuals in the state and re-circulated through the economy in successive rounds of re-spending. The end result is a multiplied economic impact that is a linear result of the school's presence and its spending patterns.

In 2015, Tripp Umbach assumes that budget cuts will not be restored, necessitating that UMMSM at FAU enrollment remain at 192 (48 students per class). The models assume modest increases in staff and faculty. Based upon this assumption, by 2015 the total impact is projected to jump to \$18.2 million. In 2025, Tripp Umbach assumes that the total class size at UMMSM at FAU will be 256 students (64 students per class), which is the original class size proposed in the agreement between FAU and the University of Miami Miller School of Medicine. Based upon this assumption, the economic impact of UMMSM at FAU in 2025 is expected to equal over \$24.0 million (see Figure 1).

Figure 1: Current and Projected Impact of UMMSM at FAU on the State of Florida (in millions)



⁷ Business Volume Impact is the total economic impact of an institution includes the direct and indirect economic impact generated in the economy as a result of the direct impact.

⁸ Direct economic impacts represent the impact for the expenditures and/or production values specified as direct final demand changes related to University of Miami Miller School of Medicine at Florida Atlantic University. Direct effects are economic impacts directly attributable to the operations and presence of the UMMSM at FAU.

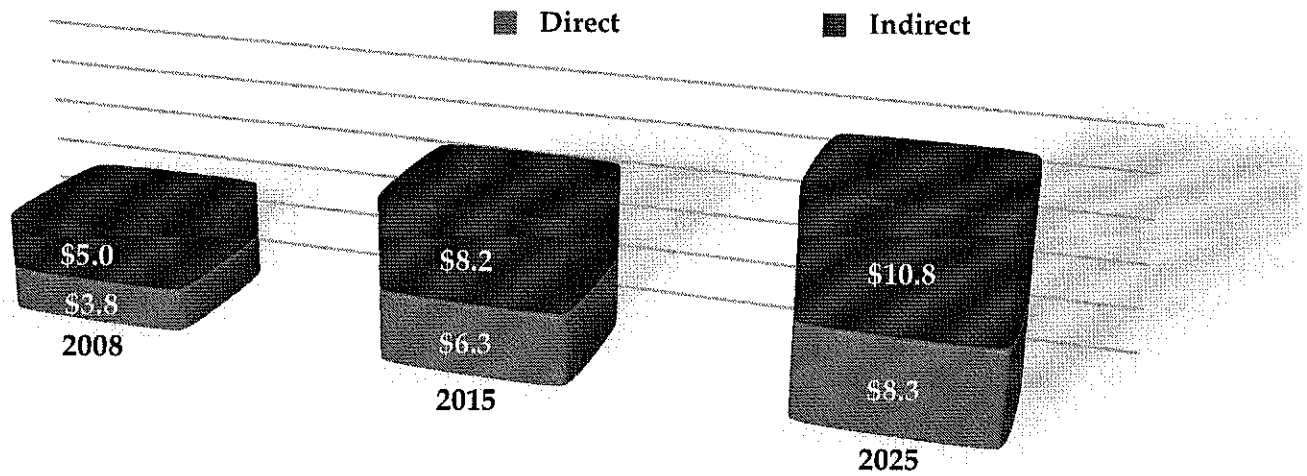
⁹ Indirect economic impact represents the iteration of industries purchasing from industries resulting from the direct impact of UMMSM at FAU. Indirect effects are business-to-business economic impacts.

Tripp Umbach

Economic Impact of UMMSM at FAU

The economic impact of UMMSM at FAU on Southeast Florida¹⁰ is expected to be \$8.8 million (direct and indirect) in 2008. The total impact on Southeast Florida is estimated to be over \$14.5 million in 2015 and increase to \$19.1 million in 2025 (see Figure 2).

Figure 2: Current and Projected Impact of UMMSM at FAU on Southeast Florida (in millions)



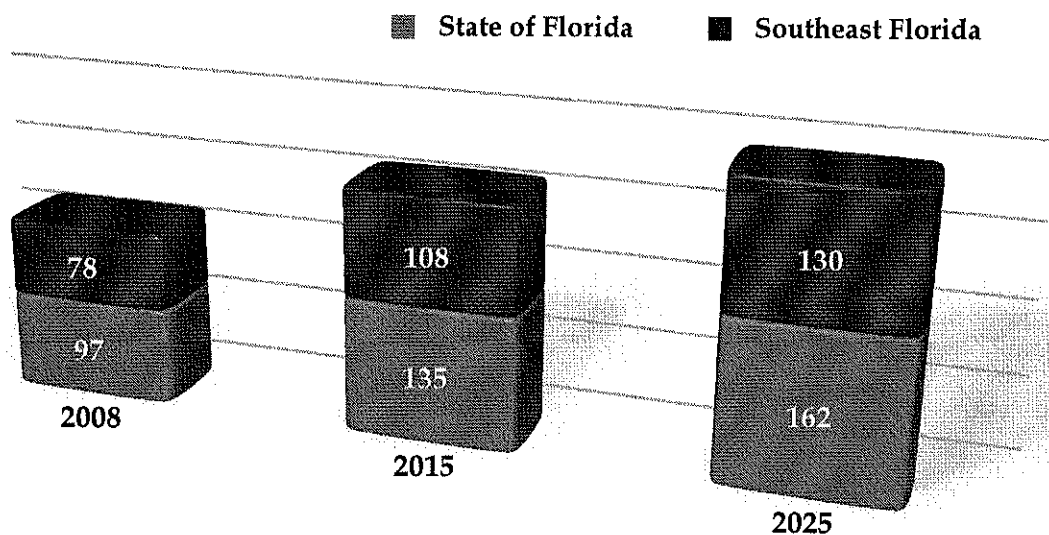
¹⁰ Southeast Florida is defined as Palm Beach, Broward, Martin, Indian River, Okeechobee and St. Lucie counties.

Employment Impact

The employment impact of UMMSM at FAU is comprised of direct and indirect impacts. Direct employment impact¹¹ represents full-time equivalent (FTE) positions created directly by the school. The positions included in the direct employment for this analysis include faculty, administration and support staff who are employed because of the operations of UMMSM at FAU. Indirect employment impact¹² represents full-time equivalent positions created as a result of the school's spending and the spending of faculty, staff, students and visitors in the defined study geography.

In 2008, the total impact of employment of UMMSM at FAU on the state of Florida was 97 direct and indirect jobs. The impact of employment generated by UMMSM at FAU in 2015 is projected to be 135 jobs. In 2025, the total employment impact will be over 162 new direct and indirect jobs in the state of Florida (see Figure 3 and Table 1).

Figure 3: Overall Employment Impact of UMSSM at FAU (Direct and Indirect FTEs)



¹¹ Direct Employment is the total number of employees at UMMSM at FAU based on Full-Time Equivalents (FTEs).

¹² Indirect employment is the additional jobs created as a result of the institution's economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, creating an employment multiplier.

During 2008, UMMSM at FAU generated 78 new direct and indirect jobs for the Southeast Florida economy. Job creation is expected to reach 108 jobs in 2015 and 130 jobs in 2025 (see Figure 3 and Table 1).

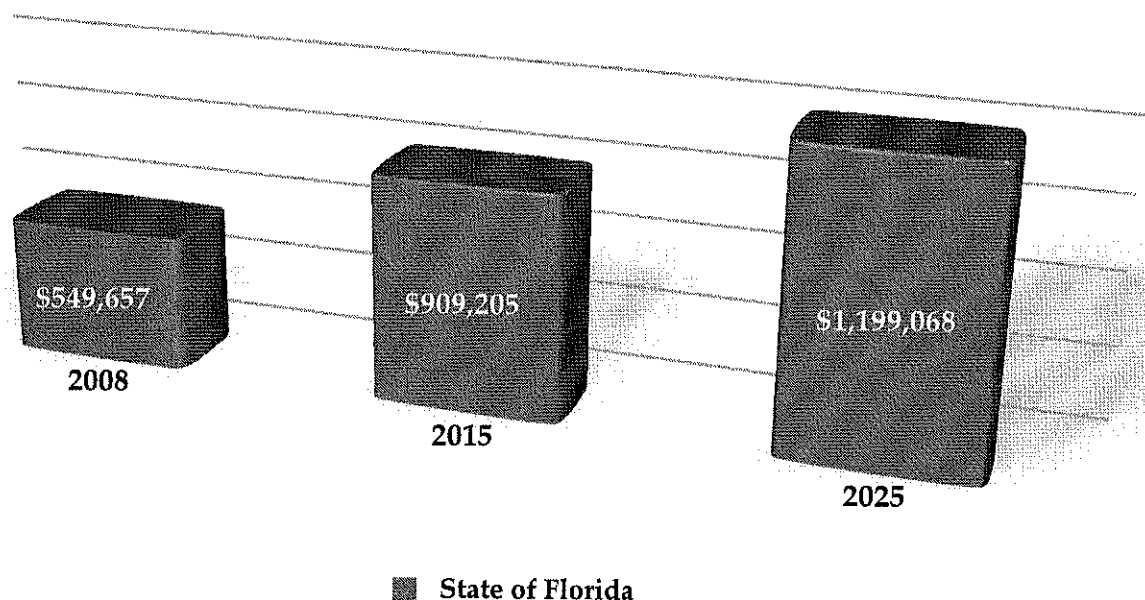
TABLE 1: EMPLOYMENT IMPACT (IN FTES)			
STATE OF FLORIDA	CURRENT (2008)	PROJECTED (2015)	PROJECTED (2025)
Total Employment	97	135	162
Direct Employment	54	75	90
Indirect Employment	43	60	72
SOUTHEAST FLORIDA	CURRENT (2008)	PROJECTED (2015)	PROJECTED (2025)
Total Employment	78	108	130
Direct Employment	43	60	72
Indirect Employment	35	48	58

Government Revenue Impact

A major misconception held by business leaders, elected officials and the general public is that medical colleges do not generate government revenue. Medical schools are significant generators of state tax revenue. The academic health care industry continues to demonstrate an organizational capability to produce medical school graduates and generate jobs for the region, which in turn will produce more tax dollars for state and local governments. While medical schools are not-for-profit institutions, the state still receives substantial revenues as a result of both the direct and indirect influence of these institutions.

In order to quantify the financial returns to the state of Florida, the models include a government revenue impact component (direct¹³ and indirect¹⁴), which calculates the total state tax revenue generated by UMMSM at FAU. In 2008, UMMSM at FAU generated \$549,657 in tax revenue for the state of Florida. Tripp Umbach projects that the state will receive \$909,205 in state tax revenues in 2015, and by 2025 annual tax revenue will reach nearly \$1.2 million (see Figure 4).

Figure 4: Overall Government Revenue Impact on the State of Florida (Direct and Indirect)



¹³ Direct government revenue is the the direct tax payments made by an institution to a unit of government.

¹⁴ Indirect government is revenue that is collected by governmental units in addition to those paid direct by an institution, it includes taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution.

UMMSM at FAU Graduates who Practice in Florida

The impact of a medical school goes far beyond its day-to-day operational impacts. For every doctor that remains in the state of Florida to practice medicine after his or her residency training, an additional \$1.3 million dollars will be generated in the statewide economy. This impact is in addition to the operational impacts of UMMSM at FAU.

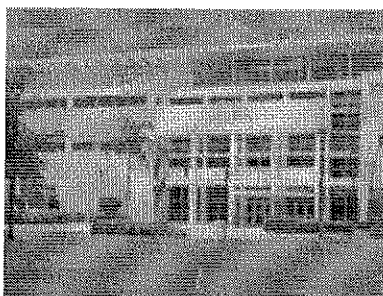
Conclusion

The impact of UMMSM at FAU is comparable to other regional campuses around the country and, because it is a regional campus, the impact is far less than that of an independent medical school. The full economic impact of this regional campus is not captured in the above analysis because the revenues collected and generated by the University of Miami and other employees (physicians and staff) at the main campus are not accounted for in this study.

Chapter 3: Impact of an Independent FAU School of Medicine

Overview

In this chapter, Tripp Umbach will evaluate the potential economic impact of FAU establishing a new medical school which operates independently of the University of Miami. Tripp Umbach will show the economic impact of an independent medical school with a class size of 64.



Potential Economic Impact

As previously noted in the first section of this report, the economic impact of a medical school is far greater than that of its operational impacts. It is quite typical that regional campuses do not have the economic and research impacts associated with the parent medical school. Thus, the economic numbers shown previously for UMMSM at FAU are consistent with other regional campuses across the country for which Tripp Umbach has completed analysis.

In the past 5 years, the AAMC's call for class size expansion or new medical school start ups to address the physician workforce shortage has resulted in a nationwide response. In that time, five new medical schools have been accredited, with two new medical schools provisionally accredited in the state of Florida, namely the University of Central Florida and Florida International University. Approximately 15 other programs nationally are currently under consideration.¹⁵

The development of medical education in a region results in a significant infusion of economic growth to the community. Medical education means business. Medical education attracts dollars to the region and also is a foundation for the training of needed primary care physicians and specialists in medically underserved regions of the United States. While medical education already has a presence in the Boca

¹⁵ Tripp Umbach has been involved in completing feasibility studies for 14 new or expanding medical schools.
Tripp Umbach

Economic Impact of UMMSM at FAU

Raton/Southeast Florida region, it could be argued that the full potential of medical education is not being realized in its current form or arrangement.

Class Size of 64 (256 students)

Based upon Tripp Umbach's national experience, it is important to note that the proposed class size of 64 would be considered small in comparison to other new medical schools starting around the country. Faculty to student ratios of peer schools of this size, along with all Florida schools, are presented in the table below (see Table 2).

TABLE 2: FLORIDA MEDICAL SCHOOLS AND POTENTIAL PEERS FOR AN INDEPENDENT FAU SCHOOL OF MEDICINE										
Institution		Total Medical Students	Full Time Faculty (Including Instructors)	Ratio Faculty to Students	Full Time Basic Science Faculty	Year 1 + Year 2 Students	Ratio Faculty to Students	Full Time Clinical Science Faculty	Year 3 + Year 4 Students	Ratio Faculty to Students
FLORIDA MEDICAL SCHOOLS										
Univ of Miami	Pvt	681	1283	1.88	120	341	0.35	1163	341	3.41
Univ of Florida	Pub	509	1287	2.53	166	255	0.65	1121	255	4.40
South Florida	Pub	480	666	1.39	167	240	0.70	499	240	2.08
Florida State	Pub	416	112	0.27	41	208	0.20	71	208	0.34
POTENTIAL PEER MEDICAL SCHOOLS (60-70 students per class)										
Ponce SOM	Pvt	279	196	0.70	36	140	0.26	160	140	1.15
South Alabama	Pub	279	239	0.86	67	140	0.48	172	140	1.23
Caribe	Pvt	258	121	0.47	31	129	0.24	90	129	0.70
Hawaii-Burns	Pub	254	258	1.02	90	127	0.71	168	127	1.32
Marshall Edwards	Pub	246	221	0.90	45	123	0.37	176	123	1.43

Tripp Umbach

Economic Impact of UMMSM at FAU

**TABLE 2: FLORIDA MEDICAL SCHOOLS AND POTENTIAL PEERS FOR AN
INDEPENDENT FAU SCHOOL OF MEDICINE**

Institution		Total Medical Students	Full Time Faculty (Including Instructors)	Ratio Faculty to Students	Full Time Basic Science Faculty	Year 1 + Year 2 Students	Ratio Faculty to Students	Full Time Clinical Science Faculty	Year 3 + Year 4 Students	Ratio Faculty to Students
North Dakota	Pub	245	138	0.56	66	123	0.54	72	123	0.59
Mercer	Pvt	243	216	0.89	37	122	0.30	179	122	1.47
Eastern Tennessee	Pub	242	195	0.81	50	121	0.41	145	121	1.20
All Schools (Average)		559	1020	1.82	126	280	0.45	895	280	3.20

It is also noteworthy that the average class size of new medical schools is between 80 - 120 students per class (320 to 480 students total, respectively). This range of class size is most common because these student numbers have proven to be the most cost-effective and financially viable when beginning a new medical school.

Based upon Tripp Umbach's economic impact database for new medical schools, the following can be stated about a medical school with 64 students per class (256 students total):

- 🔦 On average, the overall economic impact of a medical school of this size is **\$52.0 million** (direct and indirect).
- 🔦 On average, the overall employment impact of a medical school is **496 FTEs** (direct and indirect).
- 🔦 On average, the overall government revenue impact of a medical school of this size is **\$2.6 million** (direct and indirect).
- 🔦 The average amount of research revenue for a medical school is **\$8.0 million**.
- 🔦 The average clinical practice plan revenue generated is **\$2.0 million**.

In order to show a range of potential impact of physicians who stay in the state of Florida to practice medicine after medical school and residency training, Tripp Umbach developed two scenarios to look at the impact of training and retaining more physicians in the state of Florida.

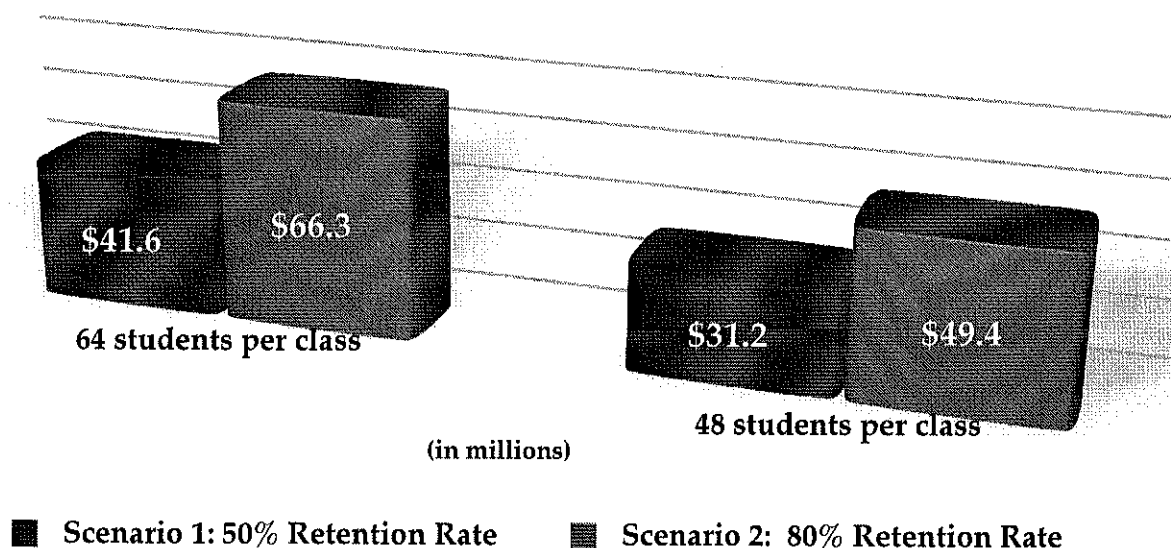
Scenario 1: Assumption of 50% retention rate of medical students who graduate from a Florida-based school regardless of where the student completes residency training.

In Scenario 1, there is no assumption that graduates from Florida-based medical schools will remain in the state of Florida to complete their residency training. Based upon AAMC data, it is assumed that 50% of all medical students who graduate from a Florida-based medical school will practice in the state of Florida regardless of where they pursued their residency training. If an FAU-based medical school is able to insure that 50% of new doctors in a class size of 64 ($n=32$ practicing physicians) stay in the state of Florida every year, the newly created economic impact would be \$41.6 million per class. If the class size is reduced to 48 students per class ($n=24$ practicing physicians) then the economic impact would be \$31.2 million per class.

Scenario 2: Assumption of 80% retention rate of medical students who graduate from a Florida-based school if the student also completes residency training in Florida.

Scenario 2 assumes that graduates of Florida-based medical schools will also remain in the state of Florida to complete their residency training. Based upon data from the AAMC, if Florida medical students also remain in the state of Florida to complete their residency training, 80% of these students will practice in Florida. Assuming that 80% of new doctors in a class size of 64 ($n=51$ practicing physicians) stay in the state of Florida every year, the newly created economic impact would be \$66.3 million per class. If the class size is reduced to 48 students per class ($n=38$ practicing physicians) then the economic impact would be \$49.4 million per class.

Figure 5: Per Class Impact of Medical Students who Practice in Florida after Residency Training



It is critical to note that the aforementioned economic benefits are not dependent upon FAU being an independent medical school. These impacts would occur in the economy whether FAU remains a part of the University of Miami Miller School of Medicine or chooses to become an independent medical school.

Table 3 below illustrates the projected impact of UMMSM at FAU as a regional campus with 48 students per class, no research revenue and no faculty practice plan revenue, compared to the scenario of an independent FAU medical school with 64 students (see Table 3).

TABLE 3: COMPARISON OF IMPACT BY SCENARIO		
	PROJECTED IMPACT OF REGIONAL CAMPUS (48 STUDENTS PER CLASS)	POTENTIAL IMPACT OF AN INDEPENDENT SCHOOL (64 STUDENTS PER CLASS)
Operational Impact	\$18.2 million	\$52.0 million
Overall Employment Impact	97 FTES	496 FTEs
Government Revenue Impact	\$909,205	\$2.6 million
Annual Research Revenue	\$0.0	\$8.0 million

TABLE 3: COMPARISON OF IMPACT BY SCENARIO		
	PROJECTED IMPACT OF REGIONAL CAMPUS (48 STUDENTS PER CLASS)	POTENTIAL IMPACT OF AN INDEPENDENT SCHOOL (64 STUDENTS PER CLASS)
Faculty Practice Plan Revenue	\$0.0	\$2.0 million
Scenario 1: Impact of Physicians Practicing in State of Florida (50% retention rate)	\$31.2 million (24 physicians)	\$41.6 million (32 physicians)
Scenario 2: Impact of Physicians Practicing in State of Florida (80% retention rate)	\$49.4 million (38 physicians)	\$66.3 million (51 physicians)

Conclusions

Overall, the potential impact of an independent FAU medical school would have roughly six times the economic, employment, government revenue and research impact than a regional campus. However, the cost and effort required to start a new medical school should not be underestimated. While it is clear that the benefits could be greater for FAU, and ultimately Southeast Florida and the state of Florida, if more physicians entered into the workforce as a result of a larger, independent medical school, starting a new medical school would need to be thoroughly investigated and evaluated. In addition, it must be stressed that Tripp Umbach's previous research in the states of Georgia, Pennsylvania, California, Arizona and Florida has shown that the state of Florida will achieve a significant return on investment for a new medical school, provided that the school adds and retains physicians in the regional and statewide workforce.

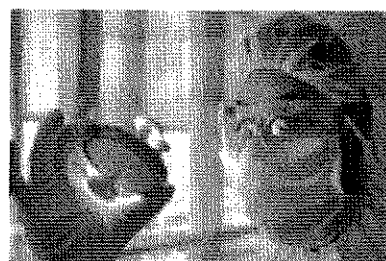
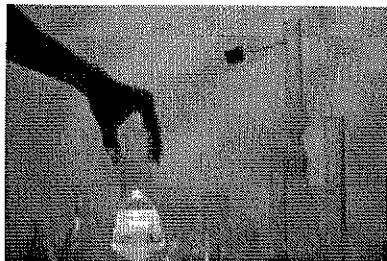
Chapter 4: Impact of Bioscience Industry in Florida

Introduction

Florida has focused energy, time, and resources to establish the state as a worldwide leader in the biosciences. Organizations, businesses, research institutions and industry focused leadership partner to accelerate and build on the bioscience foundation already established in Florida. The bioscience sector generally benefits from a strong background of scientific research and development, which Florida achieves through renowned universities, hospitals, and targeted areas of biotechnology, pharmaceuticals and medical technologies.

Florida benefits from a sustainable bioscience industry in the form of innovation, technology, business development and increased employment in a global economy. Biosciences generate high-paying jobs and revenue sources for Florida and its six geographic regions (as defined by the bioscience industry organization, BioFlorida), which in turn ripples through the economy. Specific bioscience initiatives in Florida relate to capital formation, public policy, workforce development, education and commercialization of research.

In this report, Tripp Umbach quantified the impact that the bioscience industry provides to Florida, specifically the overall economic output and employment impact of bioscience.



Key Findings

Florida's bioscience industry is comprised of three components: Healthcare and Providers, Academic Medicine and the Commercial Bioscience industries. Florida's bioscience industry has an overall economic impact of more than **\$166 billion** on the state.

Florida's bioscience industry accounts for almost **1.43 million** full-time equivalent positions (FTEs) in the state. Approximately 1 in 10 Florida residents is employed directly or indirectly by Florida's bioscience industry.

The commercial bioscience industry in Florida has an overall operational impact of **\$36.9 billion**.

The commercial bioscience industry provides over **68,500** high paying full-time equivalent (FTEs) jobs directly to Florida's economy. In addition, the commercial bioscience industry supports over **110,500** FTEs the indirect and induced FTEs in the State of Florida.

The full analysis is available in an Appendix entitled 2007 Analysis of the Bioscience Industry in Florida at the end of this report.

Implications for FAU

There exists great potential for the current school of medicine or an independent FAU school of medicine to further tap into this growing sector of the economy and increase the impact of research and research commercialization at FAU. The current positioning of the medical school within the College of Biomedical Sciences is advantageous for this research. Throughout the country, there are strong examples of an academic health center serving as a catalyst for research and economic growth in the bioscience field. An example of an academic health center campus still in its fledgling development is the University of Arizona College of Medicine Phoenix Biomedical Campus. This campus is a partnership between the College of Medicine, Translational Genomics Research Institute (TGen), Arizona State University and other research partners. This campus has shown great promise in becoming a center of research and education.

Tripp Umbach estimates that for every \$1.00 of economic impact of an independent medical school, a total of \$8.00 is generated within the biomedical industry cluster. Therefore, an independent medical school at FAU would generate \$500 million in economic impact for the service region over the next 20 years.

Glossary of Terms

A) Southeast Florida

Includes Palm Beach, Broward, Martin, Indian River, Okeechobee and St. Lucie counties.

B) Total Economic Impact

The total economic impact of an institution includes the direct, indirect and induced economic impact generated in the economy as a result of the direct impact.

C) Direct Economic Impact

Direct economic impacts represent the impact for the expenditures and/or production values specified as direct final demand changes related to University of Miami Miller School of Medicine at Florida Atlantic University. Direct effects are economic impacts directly attributable to the operations and presence of the UMMSM at FAU.

D) Indirect Economic Impact

Indirect economic impact represents the iteration of industries purchasing from industries resulting from the direct impact of UMMSM at FAU. Indirect effects are business-to-business economic impacts.

E) Total State Business Volume

Total sales receipts generated within a given geographic area (State of Florida). Business volume includes wholesale, retail, service sector spending as well as value added in the manufacturing process.

F) Multiplier Effect

The multiplier effect is the additional economic impact created as a result of the institution's direct economic impact. (Indirect and Induced).

G) Direct Government Revenue

Direct tax payments made by an institution to a unit of government.

H) Indirect Government Revenue

Government revenue that is collected by governmental units in addition to those paid direct by an institution, including taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution.

I) Direct Employment

Total Employees based on Full-Time Equivalents (FTEs).

J) Indirect Employment

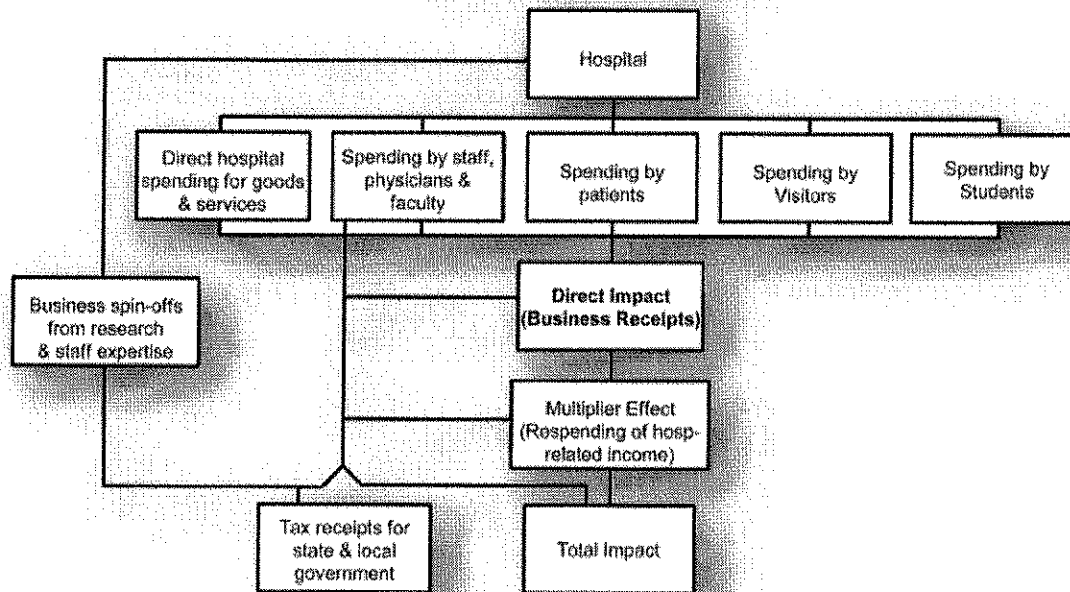
Indirect employment is the additional jobs created as a result of the institution's economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, creating an employment multiplier.

Linear Cash Flow Methodology

The methodology employed in the economic impact section of this report was derived from an original set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area.

In 1996, Tripp Umbach began a consulting relationship with the Association of American Medical Colleges (AAMC) and completed the first national study showing the economic impact of academic medical centers. For this study, the Tripp Umbach research team felt it important to distinguish the economic impact of the institutions that are attributable to funds brought into the state from out-of-state sources. The application of this "fresh dollar" model provides a first-line measure of the initial direct expansion in the state economy caused by the academic health centers. The final model concept evolved into a hybrid model including a fresh-dollar approach feeding into a traditional model which tracks hospital in-state spending. Thus the final model used for this research (see figure below) measures funds brought into the state together with the ultimate flow of these funds through the Florida economy and the effect on economic expansion, job growth and enterprise development. The final methodology closely matches the impact study methodology recommended for individual medical schools and teaching hospitals by AAMC.

Hospital Economic Impact (A Traditional Model)

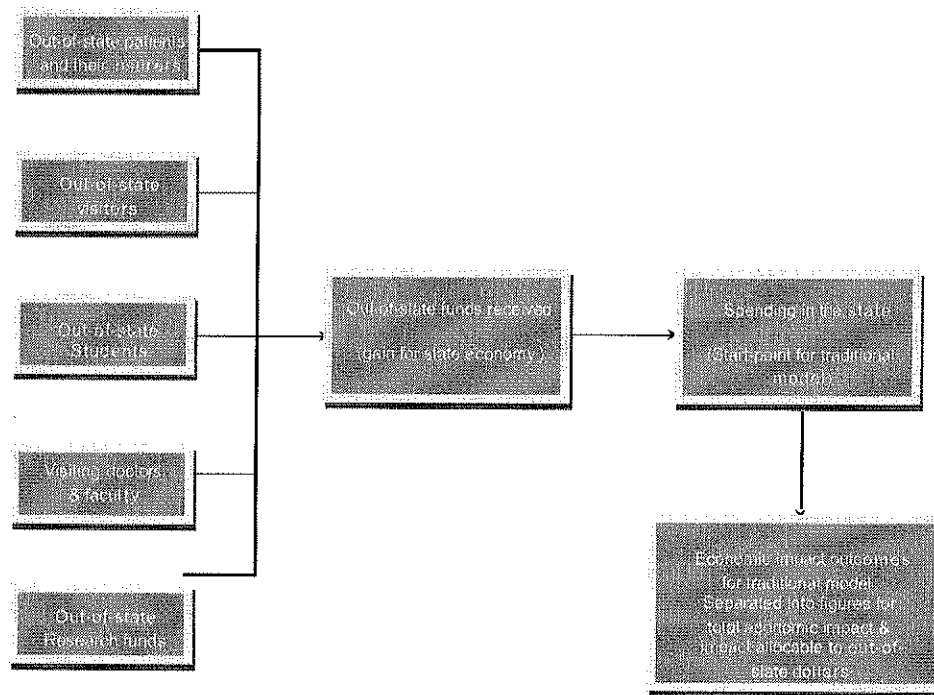


Based on previous economic impact studies performed for academic health centers in Pennsylvania and Virginia, Tripp Umbach recommended that the traditional model of economic impact for hospitals (see Figure above), based on the ACE model, be modified for the purposes of this research.

The "traditional" model of hospital economic impact provides a good measure of the impact of hospital expenditures and their flow within an economy. However, the model does not account for the origination of hospital revenues, and thus counts the spending of revenues received by the hospital from in-state sources. The traditional model counts some of the spending of dollars that already existed in the Florida economy.

The application of this "fresh dollar" model provides a first-line measure of the initial direct expansion in the state economy caused by the UMMSM at FAU. The final model concept evolved into a hybrid model including a fresh-dollar approach feeding into a traditional model which tracks in-state spending. Thus the final model used for this research measures funds brought into the state together with the ultimate flow of these funds through the Florida economy and the effect on economic expansion, job growth and enterprise development (see Figure below). The final methodology closely

matches the impact study methodology recommended for individual medical schools by the Association of American Medical Colleges (AAMC).



Tripp Umbach researchers worked closely with representatives from Florida Atlantic University to acquire the primary data utilized in this study.

2007 Analysis of the Bioscience Industry in Florida

The following PowerPoint was prepared by Tripp Umbach in 2009 this year.

Appendix 3
Tripp Umbach Economic Impact Study:
The FAU-Scripps Research Institute Partnership

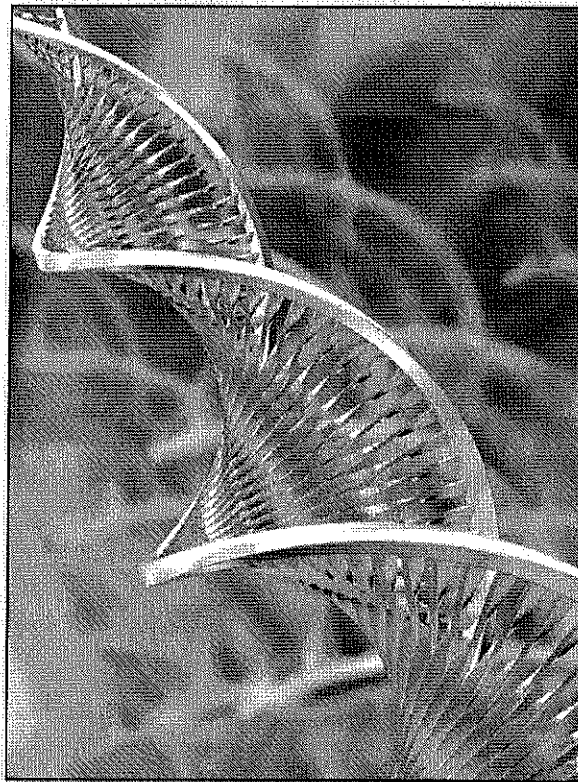
APPENDIX 4

F L O R I D A A T L A N T I C
U N I V E R S I T Y

November 8, 2009

ECONOMIC IMPACT STUDY
FLORIDA ATLANTIC UNIVERSITY AND
SCRIPPS RESEARCH INSTITUTE PARTNERSHIP

(BIOMEDICAL RESEARCH INSTITUTE, FAU MEDICAL SCHOOL, RESEARCH PARTNERSHIPS,
COMMERCIALIZATION AND BUSINESS SPIN-OFFS)



Tripp Umbach • 429 1st Avenue, 8th Floor Pittsburgh, PA 15219
telephone: 412.281.2311 • fax: 412.281.9143 • www.trippumbach.com

Table of Contents

Introduction	2
Project Overview	2
Project Objectives	2
Project Methodology	2
Projected Impact of FAU and Scripps Research Institute Partnership	4
Introduction	4
Overview of FAU and Scripps Research Institute Partnership and Assumptions	5
State of Florida Economic Impact	7
State of Florida Employment Impact	10
Government Revenue Impact	13
Conclusion	14
Glossary of Terms	15
Linear Cash Flow Methodology	16

Introduction

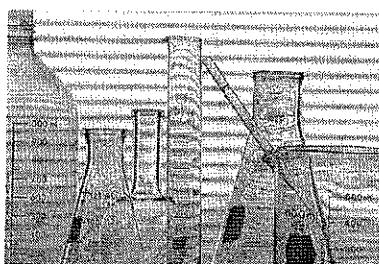
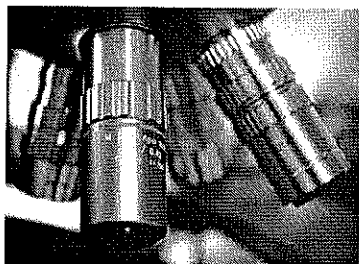
Project Overview

In the Fall of 2009, Florida Atlantic University retained the services of Pittsburgh-based research firm Tripp Umbach to analyze the potential impact of the collaboration between FAU and Scripps Research Institute Partnership¹. To accomplish this project, Tripp Umbach developed customized models that calculate the projected economic, employment and government revenue impacts associated with the proposed biomedical research institute, an independent FAU Medical School, additional research and industry partnerships and research commercialization and spin-offs.

Project Objectives

FAU required a program of economic impact research that:

- ✿ Measured the prospective economic, employment, and government revenue impacts of the proposed FAU and Scripps Research Institute Partnership in 2015, 2020 and 2025.
- ✿ Quantified the future economic, employment, and government revenue impacts associated with spin-off biomedical and commercial development in the Southeast Florida² region and State of Florida based on the Partnership.



Project Methodology

To calculate the potential economic impact of the FAU and Scripps Research Institute Partnership on the state of Florida and Southeast Florida, Tripp Umbach used a methodology derived from the original

¹ For the purposes of this report, the term "FAU and Scripps Research Institute Partnership" refers to the proposed biomedical research institute, an independent FAU Medical School, additional research and industry partnerships and research commercialization and spin-offs.

² For the purposes of this analysis, Southeast Florida is defined as Palm Beach, Broward, Martin, Indian River, Okeechobee and St. Lucie counties. It is noteworthy that these numbers are based on a series of assumptions and that a change in the assumptions could result in a change in the projected impact.

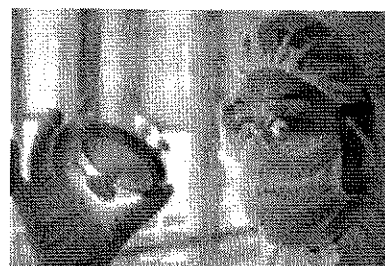
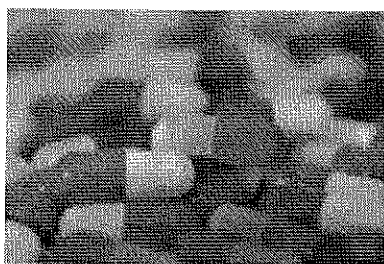
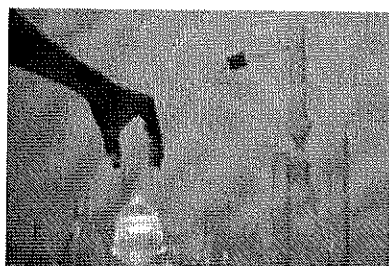
set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area (described in *Linear Cash Flow Methodology* in the appendix). Tripp Umbach also obtained primary and secondary data from Florida Atlantic University and Scripps Research Institute³. It is important to note that these numbers are preliminary estimates and based upon assumptions, further study is required as the final plan business plan for operations is developed.

³ The economic impact data presented in this report and based on the experiences of four similar research institutes: TGen, The Institute for Systems Medicine, The Minnesota Biomedical Partnership, and IGNITE. These studies indicate that a research institute at maturity (five years) will have 200 employees and an economic impact from operations of \$34.4 million annually.

Projected Impact of FAU and Scripps Research Institute Partnership

Introduction

Florida benefits from a sustainable bioscience industry in the form of innovation, technology, business development and increased employment in a global economy. Biosciences generate high-paying jobs and revenue sources for Florida and its six geographic regions (as defined by the bioscience industry organization, BioFlorida), which in turn ripples through the economy. Specific bioscience initiatives in Florida relate to capital formation, public policy, workforce development, education and commercialization of research.



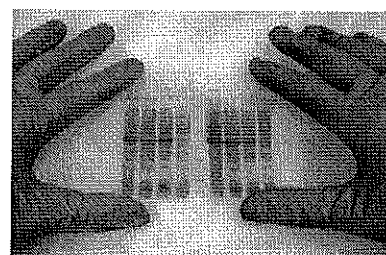
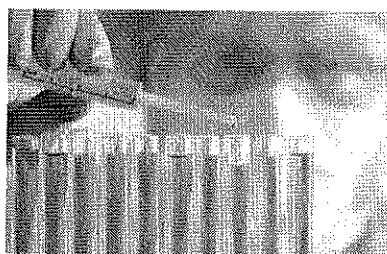
According to a study completed by Tripp Umbach in 2007, Florida's bioscience industry is comprised of three components: Healthcare and Providers, Academic Medicine and the Commercial Bioscience industries⁴.

- Florida's bioscience industry has an overall economic impact of more than **\$166 billion** on the state.
- Florida's bioscience industry accounts for almost **1.43 million** full-time equivalent positions (FTEs) in the state. Approximately 1 in 10 Florida residents is employed directly or indirectly by Florida's bioscience industry.
- The commercial bioscience industry in Florida has an overall operational impact of **\$36.9 billion**.
- The commercial bioscience industry provides over **68,500** high paying full-time equivalent (FTEs) jobs directly to Florida's economy. In addition, the commercial bioscience industry supports over **110,500 FTEs** indirect and induced in the State of Florida.

⁴ In this report, Tripp Umbach quantified the impact that the bioscience industry provides to Florida, specifically the overall economic output and employment impact of bioscience.

Overview of FAU and Scripps Research Institute Partnership and Assumptions

Over the past five years, the State of Florida and County of Palm Beach have made substantial investments to create and sustain a vibrant bioscience industry. In keeping with this bold initiative and to facilitate its realization, FAU and The Scripps Research Institute⁵ propose to undertake a transformation of their Jupiter campuses to create a Biomedical Science and Technology Institute. The Institute will have two strategic components: 1) a portfolio of collaborative, cutting-edge research programs with world-class graduate and postdoctoral training in the biosciences, and 2) an independent medical school with an enhanced science curriculum and a prominent MD/PhD degree option.



The economic impact presented in this study is based upon numerous assumptions and concepts developed by FAU and Scripps. These assumptions include:

- ✿ FAU will relocate components of its Colleges of Science and Biomedical Sciences to the Jupiter campus and develop a formal strategic partnership with Scripps Florida and Max Planck Florida. Initially, the Center for Molecular Biology and Biotechnology and the Center for Complex Systems and Brain Sciences will move to Jupiter and be expanded.
- ✿ New centers/programs in Bioinformatics, Bioengineering, and Bioimaging will be created jointly among the campus partners, creating a premiere destination for integrated biomedical research.
- ✿ Other research-based institutions in the region (e.g., Torrey Pines Institute for Molecular Studies) would be invited to form affiliations with the Biomedical Science and Technology Institute.
- ✿ The University of Florida / Florida Department of Health partnership that operates the A.G. Holley Hospital would be invited to co-locate it on the Jupiter campus and expand its research initiatives there, with a focus on emerging pathogens.

⁵ Scripps Florida currently has approximately 350 employees and already has an large economic impact of more than \$500 million in terms of direct and indirect economic impact, research commercialization, and related business spin-off activities.

Economic Impact of FAU and Scripps Research Institute Partnership

The research component of the Institute will be a technological powerhouse and will become a center for innovation that will spark economic development for the region through scientific discovery. Collaborative research initiatives will provide a strong base for increased federal funding opportunities in basic, emerging, and translational grant programs. The varied and interdisciplinary offerings of the research enterprise will attract the highest quality graduate and postdoctoral students and build the Institute's reputation as a world-class destination for research training. The Institute's integrative approach to discovery will foster close collaborations with industry and facilitate development of innovative diagnostics and therapeutics. These discoveries will lead to more efficient and cost-effective delivery of healthcare services to the public, and have a profound and transforming impact on the practice of medicine.

The accelerated pace of discovery afforded by the Institute will also serve as an engine for growth of the bioscience industry in the region and realization of the bioscience cluster originally envisioned when the State brought Scripps Research to Florida. New companies will be created and others will relocate to take advantage of the scientific expertise and technology offerings at the Institute. Blue-chip Florida has focused energy, time, and resources to establish the state as a worldwide leader in the biosciences. Organizations, businesses, research institutions and industry focused leadership partner to accelerate and build on the bioscience foundation already established in Florida. The bioscience sector generally benefits from a strong background of scientific research and development, which Florida achieves through renowned universities, hospitals, and targeted areas of biotechnology, pharmaceuticals and medical technologies.

Independent FAU Medical School

As a part of the new Partnership and campus plan in Jupiter, a new FAU medical school will be formed to produce MDs who are well grounded in the basic biomedical sciences and a large cohort of MD/PhDs. Physicians with this kind of training will be capable of understanding and applying cutting-edge scientific technologies to the practice of modern medicine. The program will combine the unique preclinical and clinical training programs currently in place at FAU with basic and specialty science courses offered through the Scripps Kellogg School of Science and Technology, a school whose graduate programs in chemistry and biology are continually ranked among the top five in the nation. MD/PhD students will complete 3 years of study at FAU and then transfer to Scripps for their PhD. These students will receive their MD degree after completion of the first year of the PhD program at Scripps.

Class size would be limited to 64 students annually, with the inaugural class beginning study in 2011. Students admitted to the school may elect to follow either an MD or an MD/PhD track. All students will complete two years of preclinical training, with an interdisciplinary curriculum enriched in

modern bioscience and technology. Students continuing on to the PhD degree would then enter the graduate program at Scripps, where they would conduct additional coursework and thesis research within the laboratory of faculty members of the program. Following completion of the PhD, these students would return to FAU for their clinical training, culminating in the MD degree.

The establishment of the Biomedical Science and Technology Institute and Medical School will be transformative on several levels.

1. They will transform the Jupiter campus by making it a world-class destination for innovation in scientific research and medical training. They will contribute to the continued transformation of the region and State by fostering growth of the bioscience industry and providing a solid foundation to sustain a knowledge-based economy.
2. They will have a transformative impact on the delivery of healthcare services, the practice of medicine, and, ultimately, the citizens' of Florida quality of life.

State of Florida Economic Impact

In 2015, the business volume operations of the FAU and Scripps Research Institute Partnership is projected to generate more than \$144.8million of business volume impact⁶ annually on the state of Florida. This impact can be divided into two parts: direct and indirect. In 2015, the direct impact⁷ of the FAU and Scripps Research Institute Partnership is projected to be \$62.7 million and stems from the spending by the partners for capital improvements, goods and services, the spending of staff and faculty, the spending of researchers, medical trainees, and the spending (external to the institutional partnerships) of visitors to the campus. The indirect impact⁸ of the FAU and Scripps Research Institute Partnership in 2015 is projected to be \$82.1 million and is derived from the direct, first-round expenditures, which will be received as income by businesses and individuals in the state and re-circulated through the economy in successive rounds of re-spending. The end result is a multiplied economic impact that is a linear result of the FAU and Scripps Research Institute Partnership's presence and its spending patterns. (See Figure 1 below)

In 2020, the projected impact of the FAU and Scrips Research Institute Partnership on the state of Florida is projected to be \$210.3 million of which \$91.3 million is direct impact and \$119.0 is indirect

⁶ Business Volume Impact is the total economic impact of an institution includes the direct and indirect economic impact generated in the economy as a result of the direct impact.

⁷ Direct economic impacts represent the impact for the expenditures and/or production values specified as direct final demand changes related to FAU and Scripps Research Institute Partnership activities. Direct effects are economic impacts directly attributable to the operations and presence of the components of the research partnership.

⁸ Indirect economic impact represents the iteration of industries purchasing from industries resulting from the direct impact of the FAU and Scripps Research Institute Partnership. Indirect effects are business-to-business economic impacts.

impact. In 2025, the overall impact is projected to be \$298.2 million (\$129.3 million in direct impact and \$168.9 million in indirect impact). The details of the projected impact by entity and activity are presented in Table 1 below.

Figure 1 : Overall Projected Economic Impact on the State of Florida (in millions)

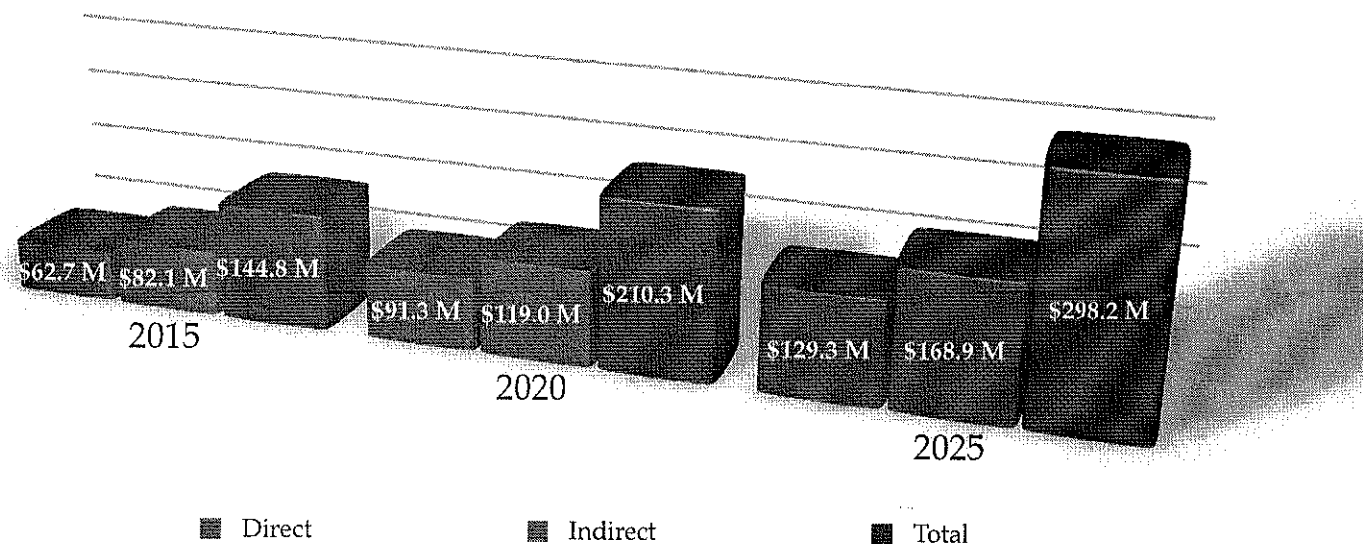


TABLE 1. ECONOMIC IMPACT ON THE STATE OF FLORIDA									
	2015 (PROJECTED)			2020 (PROJECTED)			2025 (PROJECTED)		
(in millions)	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
FAU - Scripps Research Institute	\$15.0	\$19.4	\$34.4	\$20.0	\$26.0	\$46.0	\$31.0	\$41.4	\$72.4
FAU Medical School (PhD/MD)	\$11.3	\$14.7	\$26.0	\$22.6	\$29.4	\$52.0	\$22.6	\$29.4	\$52.0
Other Research Partnerships	\$7.5	\$10.5	\$18.0	\$10.0	\$13.3	\$23.3	\$15.7	\$20.3	\$36.0
Research Commercialization and Business Spin-Offs	\$28.9	\$37.5	\$66.4	\$38.7	\$50.3	\$89.0	\$60.0	\$77.8	\$137.8
Total Economic Impact	\$62.7	\$82.1	\$144.8	\$91.3	\$119.0	\$210.3	\$129.3	\$168.9	\$298.2

Southeast Florida Economic Impact

In 2015, the projected impact of the FAU and Scripps Research Institute Partnership on Southeast Florida is projected to be \$112.2 million of which \$48.6 million is direct impact and \$63.6 million is indirect impact (See Figure 2). In 2020, the projected impact of the FAU and Scripps Research Institute Partnership on Southeast Florida is projected to be \$163.0 million of which \$70.8 million is direct impact and \$92.2 million is indirect impact. In 2025, the overall impact is projected to be \$231.1 million (\$100.2 million in direct impact and \$130.9 million in indirect impact). The details of the projected impact by entity and activity are presented in Table 2 below.

Figure 2: Overall Projected Economic Impact on Southeast Florida (in millions)

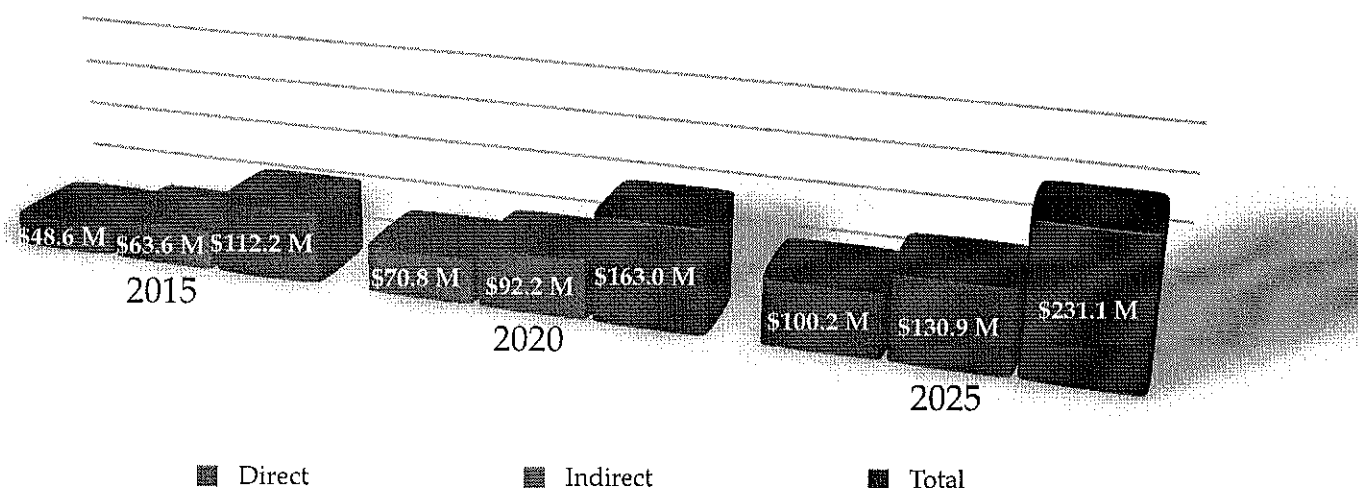


TABLE 2: PROJECTED ECONOMIC IMPACT IN SOUTHEAST FLORIDA									
	2015 (PROJECTED)			2020 (PROJECTED)			2025 (PROJECTED)		
(in millions)	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
FAU - Scripps Research Institute	\$11.6	\$15.0	\$26.7	\$15.5	\$20.2	\$35.7	\$24.0	\$32.1	\$56.1
FAU Medical School (PhD/MD)	\$8.8	\$11.4	\$20.2	\$17.5	\$22.8	\$40.3	\$17.5	\$22.8	\$40.3
Other Research Partnerships	\$5.8	\$8.1	\$14.0	\$7.8	\$10.3	\$18.1	\$12.2	\$15.7	\$27.9
Research Commercialization and Business Spin-Offs	\$22.4	\$29.1	\$51.5	\$30.0	\$39.0	\$69.0	\$46.5	\$60.3	\$106.8
Total Economic Impact	\$48.6	\$63.6	\$112.2	\$70.8	\$92.2	\$163.0	\$100.2	\$130.9	\$231.1

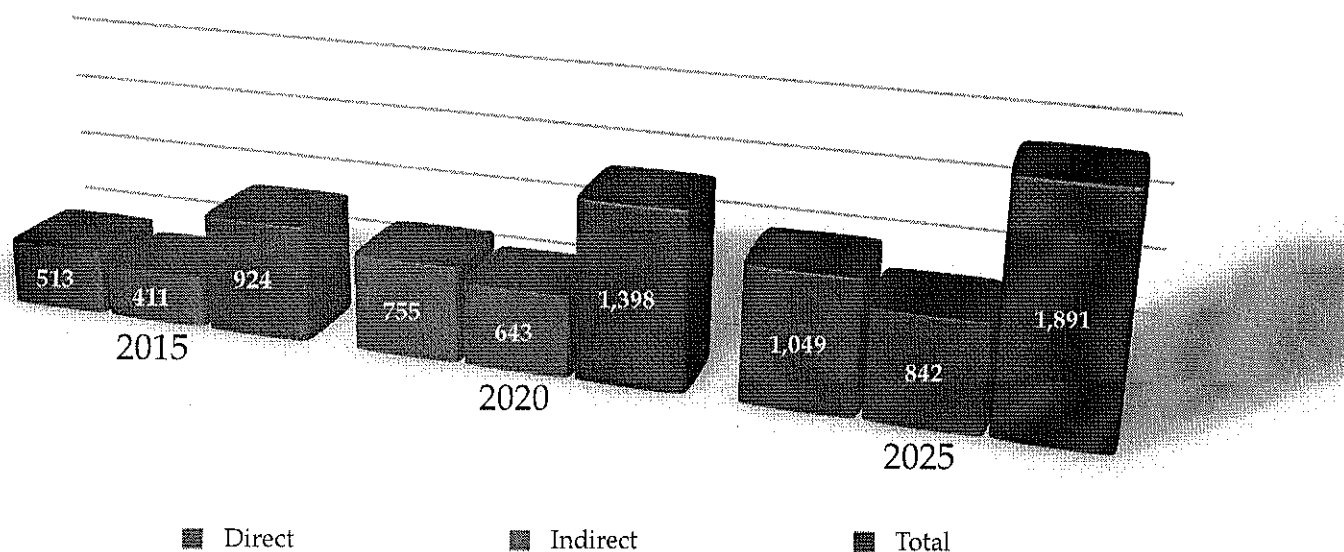
Economic Impact of FAU and Scripps Research Institute Partnership

State of Florida Employment Impact

The employment impact of the FAU and Scripps Research Institute Partnership is comprised of direct and indirect impacts. Direct employment impact⁹ represents full-time equivalent (FTE) positions created directly by the Partnership. The positions included in the direct employment for this analysis include faculty, researchers, administration and support staff who are employed because of the operations of FAU and Scripps Research Institute Partnership. Indirect employment impact¹⁰ represents full-time equivalent positions created as a result of the Partnerships's spending and the spending of faculty, staff, students and visitors in the defined study geography.

In 2015, the projected employment impact of the Partnership on the state of Florida is expected to be 924 FTEs (513 direct FTEs and 411 indirect FTEs). In 2020, the overall employment impact on the state of Florida is expected to be 1,398 FTEs (755 direct FTEs and 643 indirect FTEs). In 2025, the FAU and Scripps Research Institute Partnership is expected to generate 1,891 FTEs (1,049 direct FTEs and 842 indirect FTEs). See Chart 3 and Table 3 for additional details.

Figure 3: Overall Projected Employment Impact on the State of Florida (FTEs)



⁹ Direct Employment is the total number of employees based on Full-Time Equivalents (FTEs).

¹⁰ Indirect employment is the additional jobs created as a result of the institution's economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, creating an employment multiplier.

TABLE 3: PROJECTED EMPLOYMENT IMPACT ON THE STATE OF FLORIDA									
	2015 (PROJECTED)			2020 (PROJECTED)			2025 (PROJECTED)		
(in FTEs)	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
FAU - Scripps Research Institute	112	88	200	148	120	268	230	185	415
FAU Medical School (PhD/MD)	137	111	248	275	221	496	275	221	496
Other Research Partnerships	50	40	90	65	52	117	100	80	180
Research Commercialization and Business Spin-Offs	214	172	386	267	250	517	444	356	800
Total Economic Impact	513	411	924	755	643	1,398	1,049	842	1,891

Southeast Florida Employment Impact

In 2015, the projected employment impact of the Partnership on the Southeast Florida is expected to be 716 FTEs (398 direct FTEs and 319 indirect FTEs). In 2020, the overall employment impact on Southeast Florida is expected to be 1,083 FTEs (585 direct FTEs and 498 indirect FTEs). In 2025, the FAU and Scripps Research Institute Partnership is expected to generate 1,466 FTEs (813 direct FTEs and 653 indirect FTEs). See Chart 4 and Table 4 for additional details.

Figure 4: Overall Projected Employment Impact on Southeast Florida (FTEs)

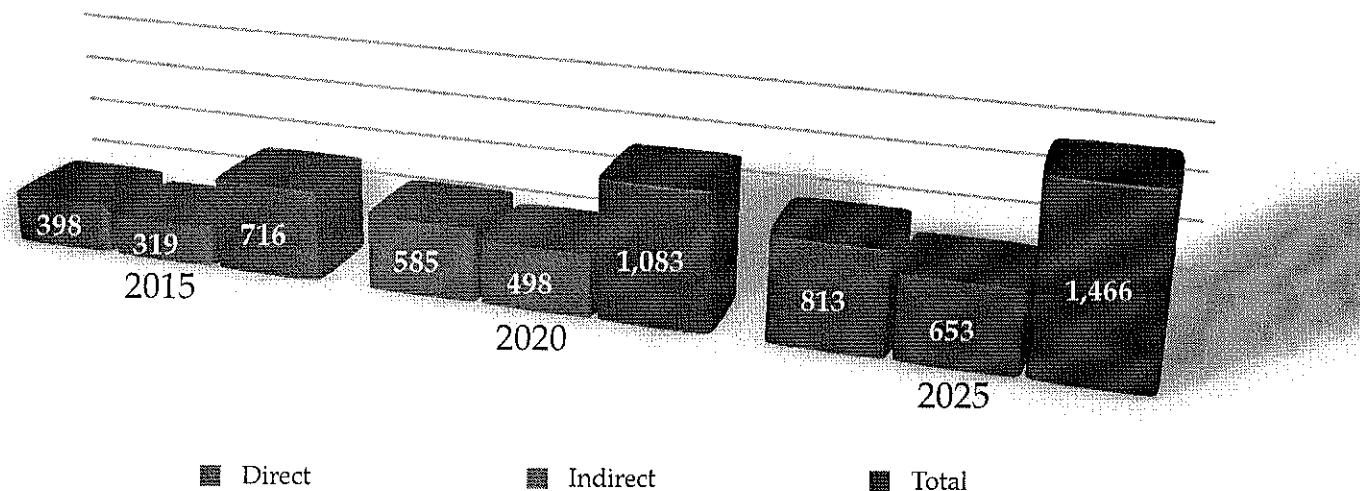
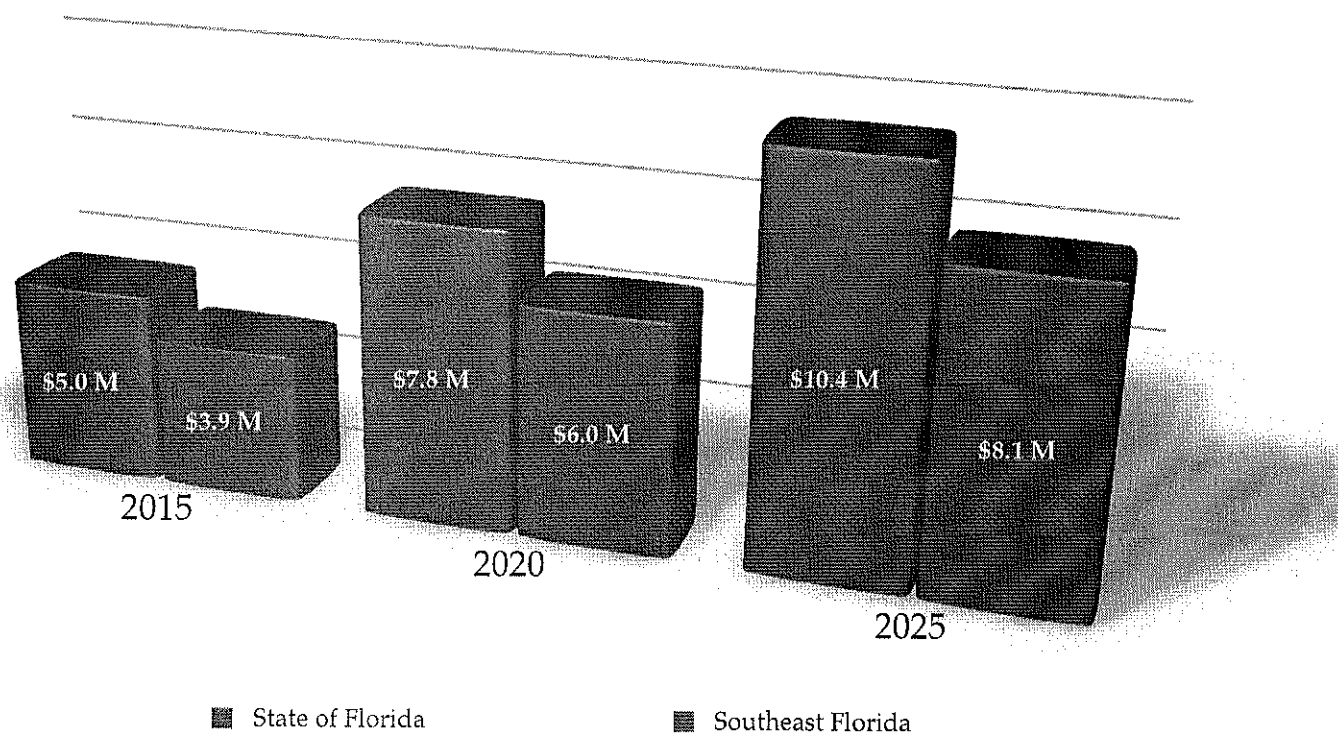


TABLE 4: PROJECTED EMPLOYMENT IMPACT ON SOUTHEAST FLORIDA									
	2015 (PROJECTED)			2020 (PROJECTED)			2025 (PROJECTED)		
(in FTEs)	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
FAU - Scripps Research Institute	87	68	155	115	93	208	178	143	322
FAU Medical School (PhD/MD)	106	86	192	213	171	384	213	171	384
Other Research Partnerships	39	31	70	50	40	91	78	62	140
Research Commercialization and Business Spin-Offs	166	133	299	207	194	401	344	276	620
Total Economic Impact	398	319	716	585	498	1,083	813	653	1,466

Government Revenue Impact

In order to quantify the financial returns to the state of Florida, the models include a government revenue impact component (direct¹¹ and indirect¹²), which calculates the total state tax revenue projected to be generated by the FAU and Scripps Research Institute Partnership. In 2015, the combined operations of the FAU and Scripps Research Institute Partnership are expected to generate \$5.0 million in tax revenue for the state of Florida and \$3.9 million (direct and indirect) for Southeast Florida. Tripp Umbach projects that in 2020, the state will receive \$7.8 million in tax revenues, and by 2025 annual tax revenue will reach nearly \$10.4 million (see Figure 5 and Table 5).

Figure 5: Overall Projected Government Revenue Impact (in millions)



¹¹ Direct government revenue is the the direct tax payments made by an institution to a unit of government.

¹² Indirect government is revenue that is collected by governmental units in addition to those paid direct by an institution, it includes taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution.

TABLE 5: PROJECTED GOVERNMENT REVENUE IMPACTS			
STATE OF FLORIDA	2015 (PROJECTED)	2020 (PROJECTED)	2025 (PROJECTED)
(in millions)	Total (Direct + Indirect)	Total (Direct + Indirect)	Total (Direct + Indirect)
FAU - Scripps Research Institute	\$1.1	\$1.4	\$2.2
FAU Medical School (PhD/MD)	\$1.3	\$2.6	\$2.6
Other Research Partnerships	\$0.5	\$0.8	\$1.1
Research Commercialization and Business Spin-Offs	\$2.1	\$3.0	\$4.5
Total Economic Impact	\$5.0	\$7.8	\$10.4
SOUTHEAST FLORIDA	2015 (PROJECTED)	2020 (PROJECTED)	2025 (PROJECTED)
(in millions)	Total (Direct + Indirect)	Total (Direct + Indirect)	Total (Direct + Indirect)
FAU - Scripps Research Institute	\$0.9	\$1.1	\$1.7
FAU Medical School (PhD/MD)	\$1.0	\$2.0	\$2.0
Other Research Partnerships	\$0.4	\$0.6	\$0.9
Research Commercialization and Business Spin-Offs	\$1.6	\$2.3	\$3.5
Total Economic Impact	\$3.9	\$6.0	\$8.1

Conclusion

The economic impact analysis completed for this project clearly demonstrate the FAU and Scripps Research Institute Partnership will greatly benefit the state of Florida and Southeast Florida in terms of economic, employment and government revenue impact. These impacts from the creation of a new biomedical research institute on the Jupiter campus in conjunction with the development of an independent FAU medical school will add to the already strong biotechnology and biomedical industry sector in the state of Florida.

Glossary of Terms

A) Southeast Florida

Includes Palm Beach, Broward, Martin, Indian River, Okeechobee and St. Lucie counties.

B) Total Economic Impact

The total economic impact of an institution includes the direct, indirect and induced economic impact generated in the economy as a result of the direct impact.

C) Direct Economic Impact

Direct economic impacts represent the impact for the expenditures and/or production values specified as direct final demand changes related to the FAU and Scripps Research Institute Partnership. Direct effects are economic impacts directly attributable to the operations and presence of the the FAU and Scripps Research Institute Partnership.

D) Indirect Economic Impact

Indirect economic impact represents the iteration of industries purchasing from industries resulting from the direct impact of the FAU and Scripps Research Institute Partnership. Indirect effects are business-to-business economic impacts.

E) Total State Business Volume

Total sales receipts generated within a given geographic area (State of Florida and Southeast Florida). Business volume includes wholesale, retail, service sector spending as well as value added in the manufacturing process.

F) Multiplier Effect

The multiplier effect is the additional economic impact created as a result of the institution's direct economic impact. (Indirect and Induced).

G) Direct Government Revenue

Direct tax payments made by an institution to a unit of government.

H) Indirect Government Revenue

Government revenue that is collected by governmental units in addition to those paid direct by an institution, including taxes paid directly by employees of the institution, visitors to the institution, and vendors who sell products to the institution.

I) Direct Employment

Total Employees based on Full-Time Equivalents (FTEs).

J) Indirect Employment

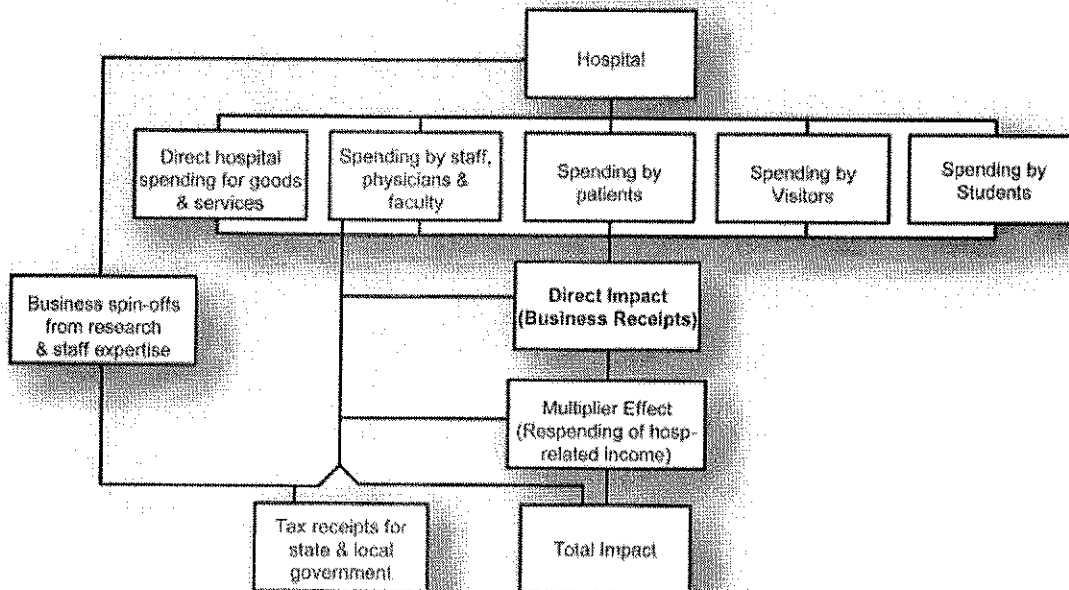
Indirect employment is the additional jobs created as a result of the institution's economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, creating an employment multiplier.

Linear Cash Flow Methodology

The methodology employed in the economic impact section of this report was derived from an original set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area.

In 1996, Tripp Umbach began a consulting relationship with the Association of American Medical Colleges (AAMC) and completed the first national study showing the economic impact of academic medical centers. For this study, the Tripp Umbach research team felt it important to distinguish the economic impact of the institutions that are attributable to funds brought into the state from out-of-state sources. The application of this "fresh dollar" model provides a first-line measure of the initial direct expansion in the state economy caused by the academic health centers. The final model concept evolved into a hybrid model including a fresh-dollar approach feeding into a traditional model which tracks hospital in-state spending. Thus the final model used for this research (see figure below) measures funds brought into the state together with the ultimate flow of these funds through the Florida economy and the effect on economic expansion, job growth and enterprise development. The final methodology closely matches the impact study methodology recommended for individual medical schools and teaching hospitals by AAMC.

Hospital Economic Impact (A Traditional Model)

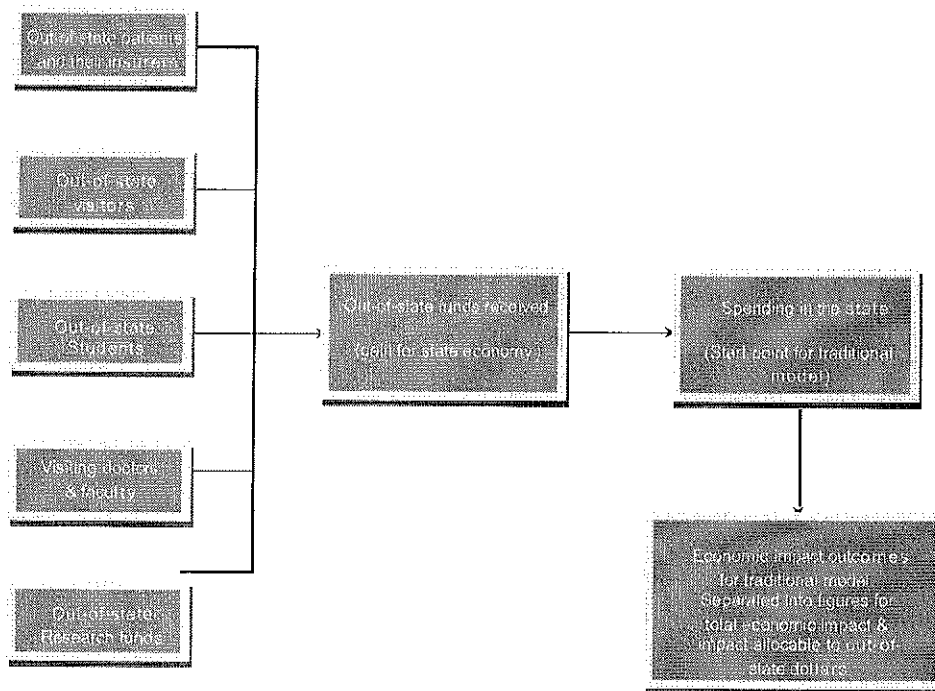


Based on previous economic impact studies performed for academic health centers in Pennsylvania and Virginia, Tripp Umbach recommended that the traditional model of economic impact for hospitals (see Figure above), based on the ACE model, be modified for the purposes of this research.

The "traditional" model of hospital economic impact provides a good measure of the impact of hospital expenditures and their flow within an economy. However, the model does not account for the origination of hospital revenues, and thus counts the spending of revenues received by the hospital from in-state sources. The traditional model counts some of the spending of dollars that already existed in the Florida economy.

The application of this "fresh dollar" model provides a first-line measure of the initial direct expansion in the state economy caused by the operations. The final model concept evolved into a hybrid model including a fresh-dollar approach feeding into a traditional model which tracks in-state spending. Thus the final model used for this research measures funds brought into the state together with the ultimate flow of these funds through the Florida economy and the effect on economic expansion, job growth and enterprise development (see Figure below). The final methodology closely matches the

impact study methodology recommended for individual medical schools by the Association of American Medical Colleges (AAMC).



Tripp Umbach researchers worked closely with representatives from Florida Atlantic University and Scripps Florida to acquire the primary data utilized in this study.

Hospital Memoranda of Understanding



November 10, 2009

ML Friedland, MD
VP for Medical Programs
Dean, Charles E. Schmidt College of Biomedical Science
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431

Dear Dr. Friedland:

We are very pleased about the potential opportunity to work with FAU in the medical education program we have discussed. If FAU decides to pursue such a program, it is our intent to serve as a site for both medical student education and residency training. We realize that no formal planning has yet been undertaken, but we believe at this early stage that we could accommodate 50-100 residents in those disciplines in which we have appropriate educational resources. We also recognize that we will need to be part of a consortium because it is very likely that each of the hospitals is unable to provide all the resources needed.

Thank you very much for including us in your analysis of the feasibility of the concept, and we look forward to being a part of the educational consortium.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jerry A. Fedele".

Jerry A. Fedele
President & CEO

800 Meadows Road • Boca Raton, FL 33486 • Telephone 561.395.7100 • www.bcrh.com



4725 North Federal Highway
Fort Lauderdale, Florida 33308
www.holy-cross.com
954-771-8000

December 7, 2009

Mr. Friedland, MD
VP for Medical Programs
Dean, Charles E. Schmidt College of Biomedical Science
Florida Atlantic University
777 Glades Road
BC 71- Room 145

Dear Dr. Friedland:

We are very pleased about the potential opportunity to work with FAU in the medical education program we have discussed. If FAU decides to pursue such a program, it is our intent to serve as a site for both medical student education and residency training. We realize that no formal planning has yet been undertaken, but we believe at this early stage that we could accommodate 50-100 residents in those disciplines in which we have appropriate educational resources. We also recognize that we will need to be part of a consortium because it is very likely that each of the hospitals is unable to provide all the resources needed.

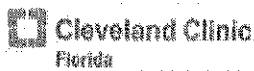
Thank you very much for including us in your analysis of the feasibility of the concept, and we look forward to being a part of the educational consortium. Understand that ultimately all of this is contingent on approval by our Board of Trustees.

Sincerely,

A handwritten signature in dark ink, appearing to read "John C. Johnson".

Mr. John C. Johnson
President and Chief Executive Officer

A member of Catholic Health East, sponsored by the Sisters of Mercy



Bernardo B. Fernandez, Jr., MD, FACP, FACA
Chief Executive Officer

November 10, 2009

Mr. Friedland, MD
VP for Medical Programs
Dean, Charles E. Schmidt College of Biomedical Science
Florida Atlantic University
777 Glades Road
EC 71 - Room 145
Boca Raton Florida 33431

Dear Dr. Friedland:

The Cleveland Clinic in Florida looks forward to working with FAU toward serving as a site for clinical education for medical students. As you know, we already have accredited residency and fellowship programs that can serve the educational process well. Our faculty has authored or co-authored over 2,000 peer reviewed articles and abstracts.

Sincerely,

Bernardo B. Fernandez, Jr., M.D., FACP, FACA
Chief Executive Officer

BBF/bfs

3950 Cleveland Clinic Blvd.
Weston, FL 33328

tel: 561-659-1000
fax: 561-659-6800



5810 Coral Ridge Drive
Suite 300
Coral Springs, FL 33066
tel: 954.506.8600
www.tenethealth.com

November 9, 2009

Mr. Friedland, MD
VP for Medical Programs
Dean, Charles E. Schmidt College of Biomedical Science
Florida Atlantic University
777 Glades Road, BC 71 - Room 145
Boca Raton, Florida 33431

Dear Dr. Friedland:

We are very pleased about the potential opportunity to work with FAU in the medical education program we have discussed. If FAU decides to pursue such a program, it is our intent to have several Tenet Hospitals serve as sites for both medical student education and residency training. We realize that no formal planning has yet been undertaken, but we believe at this early stage that we could accommodate 25-50 residents in those disciplines in which we have appropriate educational resources. We also recognize that we will need to be part of a consortium because it is very likely that each of the hospitals is unable to provide all the resources needed.

Thank you very much for including us in your analysis of the feasibility of the concept, and we look forward to being a part of the educational consortium.

Sincerely,

David Katzo, MD, FACC
Tenet Healthcare Corporation
Regional Chief Medical Officer
Florida, North Carolina, South Carolina

DK/cw

cc: M. Powers, Sr. VP, Florida Region
R. Krieger, CEO, Dairway Medical Center
D. Carbone, CEO, St. Mary's Medical Center

APPENDIX 5

Summary Data on Hospitals Potential for Residency Training Programs COMPARATIVE DATA FOR CANDIDATE GME HOSPITAL AFFILIATES

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
Address	2815 South Seacrest Boulevard Boynton Beach, FL 33435 (561) 737-7733 www.bethesdaweb.com	800 Meadows Road Boca Raton, FL 33486 (561) 395-7100 www.breh.com	5352 Linton Boulevard Delray Beach, FL 33484 (561) 498-4440 www.delraymedicalctr.com	4725 North Federal Highway Fort Lauderdale, FL 33308 (954) 771-8000 www.holy-cross.com	5301 South Congress Ave. Atlanta, FL 33462-1197 (561) 548-3942 www.jfkmc.com	901 45th St West Palm Beach, FL 33407 (561) 844-6300 www.stmarysmc.com	7305 N. Military Trail West Palm Beach, FL (561) 422-8603 www.vishn8.med.va.gov/westpalm
Distance from FAU	Est. Distance: 13.27 miles Est. Driving Time: 15 minutes	Current Location Est. Distance: 0.96 miles Est. Driving Time: 2 minutes	Est. Distance: 8.97 miles Est. Driving Time: 12 minutes	Est. Distance: 17.17 miles Est. Driving Time: 21 minutes	Est. Distance: 19.28 miles Est. Driving Time: 21 minutes	Est. Distance: 31.39 miles Est. Driving Time: 31 minutes	Est. Distance: 24 miles Est. Driving Time: 30 min.
Ownership	Not-for-profit	Not-for-profit	Tenet	Catholic: Not-for-profit	HCA	Catholic: Tenet	VA
Licensed Beds	390	394 Plus 10-bed NICU	372 (319 acute & 53 psych)—adding 31 more acute care in November	576	424	464	Hospital: 184 (includes 15 bed Blind Rehab Unit) Extended Care: 120
Inpatient Admissions	19,000	22,280	20,080	>15,000	26,000	18,290	FY05: 6260 FY06TD: 4120
Outpatient Visits	116,740	248,385	Pinecrest = 35,359 Other = 43,022 TOTAL 78,381	114,530	132,000	101,823	FY05 265,211
Seasonal Variation Volume Occupancy	There is seasonal variation. Actual average occupancy rate for 2004 is 71.1%. Average daily census 267-270. Off seasons runs 230-240 and in season runs 340-350.	There is seasonal variation. Volumes range from 250 to 380. Occasionally reaches 440.	During 5 months of peak season average daily census is 110% of licensed beds. Off season, they run 225-230. Significant seasonal variation of up to 100.	January through April peak in low 400s, then during off season they have 230-310 inpatients/day.	Moderate, with average occupancy rate at 78%	Moderate: lowest 280 patients and highest 360.	Moderate seasonal variation. Cum Occ Rate FY05-80% Cum Occ Rate FY06TD=91%
Case Mix Index	1.41	1.49-1.53	1.52	1.65 to 1.78	1.78 Medicare 1.64 all payer	1.6	N/A

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
Payer Mix	26.6% Medicare IP 13.3% Medicare OP 17.9% Medicaid & Medically Needy 32.3% Managed Care 2.6% Commercial Ins. 7.2% Private Pay 4,131	59% Medicare 28% Managed Care 3.0% Blue Cross 2.6% Medicaid 2.2% Private Pay 2.6% Commercial 2.6% Other 5,013	59.6% Medicare 29.3% Managed Care 4.0% Uninsured 2.0% Commercial 2.0% Medicaid 1.8% Charity 1.0% County Programs 0.3% Other 2,151	44% Medicare Acute & IRU 7% Medicaid 6.7% Blue Cross 27.6% HMO 5.1% PPO 5.8% Commercial/Other 3.4% Self pay ~5,000	44% Medicare 7% Medicaid 36% Managed Care (includes Medicare and Medicaid HMO) 4% Uninsured 9% Other 4,300	14% Medicare 31% Medicaid 37% HMO 7% District Funding 12% Self-Pay 4,184	Congressionally allocated appropriations. Apx. 15% of medical center budget received from 3 rd party payments (cannot bill Medicare/Medicaid) FY05: 4486
Ambulatory Surgeries	4,000	5,166	~4,500 (400-550 open hearts)	~5,000	7,400	3,271	FY05: 700
Inpatient Surgeries	54,000; second busiest ER in Palm Beach County; 25% uninsured; 42 bays	50,000	32,000-35,000 (plan expansion of space to double current space—2007)	>50,000 (ave. waiting time 30-45 minutes)	62,000	~40,000 adult ~20,000 pediatric	FY05: 18,274 FY06TD: 10,745
Trauma Status	No	No	Level II Trauma Center ~ 120 /month	No	No	Level II Trauma Center ~ 150 cases / month, 1600 to 1900 admissions /yr to trauma service (5 trauma surgeons) Have 2 hellipads.	No
Burn Unit	No	No	No	No	No	No	No
OB/GYN	3,000 births/yr Level III NICU 24/7 neonatologist and paranatologist	2,200-2,300 birth Level II NICU (10 beds)	No, except trauma	1,700-1,800 births/yr 5 OB/GYN physicians Level II NICU	No OB Do have GYN	4,000 births/yr Do high-risk OB 42-bed NICU (22 Level II and 20 Level III). Intend to add more beds to the NICU; RIPCC	No OB Comprehensive Women's Health Clinic run by NP and MD. Most Gyn surgeries available
Pediatrics	Level III PICU 15-bed peds unit (~500 admissions /yr) 1 peds hospitalist; plan to add peds intensivist; recently expanded Peds ER to 24/7	Virtually no pediatrics—no pediatric inpatient unit	No, except trauma	Only have 5 bed pediatric inpatient unit.; employ 6 pediatricians; 4 are in group practice next to hospital; other 2 in group practice in nearby Wilton	No pediatric inpatient unit.	81-bed Nicklaus Children's hospital 13-bed PICU	No

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
	coverage; 2 peds. surgeons; very good peds. sub-specialists			Manners suburb			
Psychiatry	No inpatient	No	53-bed inpatient psychiatry unit, Fair Oaks, with 1,500-1,600 inpatient psychiatry admissions/yr. All physicians with privileges at Delray also have privileges at Fair Oaks.	No inpatient psych. But Horizon is a 72-bed inpatient facility next door.	No	40-bed inpatient psychiatry unit. Average census of 33-35, with fairly high acuity.	18 bed inpatient acute psych unit ADC: 15.2
Rehab	Just approved for a 28-bed inpatient rehab unit staffed by pain & rehab. physicians	No	90-bed attached rehab hospital, Pine Crest	48 bed inpatient acute care rehab unit; has been primarily orthopedic rehab, but increasing emphasis on neuro-rehab.		50-bed rehab center	No inpatient rehab unit. Comprehensive opt rehab and pain mgmt programs. 15 bed Blind Rehabilitation Center and opt blind rehab services
Electronic Medical Record	Everything except order entry and physicians' notes is electronic; Have purchased some modules, but have not started implementation yet; Reluctance to get started due to older physicians. But, do have a proposal to purchase Up-to-Date and are seriously considering this.	Limited in existing hospital; plan for new Hospital to have state of the art technology	After discharge all patient records are scanned and put into electronic depository. These records are then available to physicians in the hospital as well as at any remote location. They also can pull up lab and x-rays; plan to have electronic order entry and med. records by 2007.	Voice activated dictation in radiology. Physicians already have remote access to labs and x-rays. purchasing EMR, Meditech and plan for implementation 2 nd quarter 2007. Don't currently have ability to link EMR to outpatient sites and not sure when this will be possible	Not currently, but plans in place to begin implementation January 2006, with complete roll-out in 12-24 months.	No	Fully electronic medical record system with performance monitoring systems, query capabilities and clinical reminders. Intranet link to EMRs at all other VAMCs. West Palm Beach VAMC is a agency leader in EMR innovation
Employed	2 employed physicians; 1 is neurosurgeon; used to employ 12	None	None	86, plan to increase this by approx. 100 more: include IM, FP, Peds, OB/GYN,	All private practice	Employ 2 of 4 neurosurgeons; plan to employ others including neurologist, cardiologist, general	1750 total employees. ~250 are FT, PT or consultant physicians. All medical and surgical specialties except CT,

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
	primary care doctors, including 3 OBs			Orthopedic Surgeons (10), Endocrinologists (4), Pathologists, Hem/Onc, and ER physicians. Cancer Center physicians all employed.		surgeon, orthopedic surgeon	NS and trauma
Contracted	Yes	Yes, about 60	Use contracted physicians (trauma and ER); ER docs they contract with very tenured; also currently paying for some night coverage; all bd. certified in EM	Radiology and Anesthesiology	Yes	Yes	Occasional locum tenens contracts for scarce specialists
Hospitalists	12 contracted hospitalists: 3 groups—2 groups service HMO patients driven and the other group indigent care	5 hospitalists	Yes	None—tried to use them 2-3 yrs ago—didn't work; planning to reconsider hiring them in immediate future; several managed care groups have designated physician to serve as hospitalist for their patients	11 Hospitalists Have ~ 25,000 unassigned patients/yr Also take care of some elective surgery patients.	Yes. Have 7-8 hospitalists, with 50-70 patient census for hospitalists. Most of their primary physicians admit to the hospitalists.	21 Hospitalists that staff 101 acute med/surg/telemetry beds
Intensivists	No, but considering—currently the pulmonologists run the units	No	No	Actively recruiting	Intensivist starts November 1, 2005	2 pediatric intensivists	7 FT Board Certified Intensivists staff our 13 bed closed ICU
ER physician training	All Board Certified contracted physicians, not all EM trained.	5 hospitalists staff ER -contracted—all Board Certified.	All EM trained contract all trauma physicians	All Board Certified ER Director is from academics.	Contracted and all EM trained	All Board Certified.	All employees of medical center. Vast majority BC in EM/IM/Family practice. Most EM trained.
Intensive Care Units Open/Closed	Open; all physicians on critical care units are critical care boarded	Open Have discussed closing the units, but this is far off and may not happen.	Open; 52 ICU beds (neuron., cardio., trauma step down)	Currently open but moving to "semi-closed" units July, 2006; will have 24/7 coverage by	Open	Open Currently pay for physician coverage.	Closed (construction in progress to expand from 13 to 21 beds)

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
				boarded critical care intensivists;			
CME Office	Do not have an accredited CME program. Do run conferences	Yes. Have 1 FTE who also manages library.	1 FTE who also manages the library	Part-time medical director and 3 part-time staff who also do medical staff functions	Joint Sponsorship accreditation—no full-time staff, but sponsored 18 programs last year.	No CME office. CME through Good Samaritan Hospital.	FT CME Coordinator. Programs accredited for CME/CEU by Florida Medical Association and Florida Board of Nursing.
Research & IRB	Yes. Have 2 FTE Clinical Research Coordinators. Do have a few original studies generated by physician staff.	Do have an IRB. They have a Clinical Research Center with a Director and 3 FTE Clinical Research Coordinators (CRCs) nurses.	Do not have an IRB.	They do have a functioning IRB, but to this point have reviewed pharmaceutical sponsored clinical trials—no original research. 1 Clinical Research Coordinator (CRC)—a nurse and 1 IRB support	Currently have IRB, but moving to Western IRB. Have 90 active clinical trials, but no investigator initiated research.	Have a functioning IRB, but to this point focused on sponsored clinical trials. Have 1.5 Clinical Research Coordinator. Believe physicians would be interested in original research with proper support staff.	Small clinical research program closed in July 2005. Local interest and talent to re-open program. Applying for accreditation of cancer program by the American College of Surgeons-On site clinical trials needed for accreditation.
Teaching Space							
Classrooms	Clayton Conference Center—has two halves that open to seat up to 250 people, with video conference capability. Plus, at least 5 small teaching rooms.	New Building: 15% of space dedicated to medical education. Current Building: Educational Center across the main driveway has 1,200 square feet of auditorium and small class room teaching space.	Could use Pine Crest when the rehab hospital is moved. Also, plan 18,000 square feet of space to be built on a 2 nd and 3 rd floor above the ED—completion 2009. This could be used for teaching space.	Have 300-seat auditorium, Innocence Conference Center, plus some small class rooms. Cardiovascular Center has classrooms. Cancer Center has video conf. capability.	Existing teaching space includes 7 small conference rooms and one area that can seat 250.	Large (mostly abandoned) convent behind the hospital. They would consider remodeling 20 plus rooms in the convent for teaching purposes. CEO's strategic plan includes building a Community Education Facility, which would include an auditorium.	Some small conference rooms. One large conference room (100 seats). One computer lab. No Auditorium. Space available on campus for construction of academic conference center.
Video/ Teleconferencing capabilities	See above	Yes; in Education Center	No	Video conference equipment in Board Room. Extensive A/V department.	Yes	Yes	Yes, in several small conference rooms
Library	Yes, small. Librarian works from 8-1 PM.	Yes, small. Access 24/7.	Small library, but feel it is current. Could make it available 24/7	Small library, but it is already open 24/7. In process of	Yes	No	Yes. Small but well equipped library, open M-F 8-5. Very good

Characteristic	Bethesda Memorial Hospital	Boca Raton Community Hospital	Delray Medical Center	Holy Cross Hospital	JFK Hospital	St. Mary's Hospital	West Palm Beach V.A.
	Have key access for all physicians 24/7.		for students and residents.	moving to nicer area and plan to add electronic capability.			electronic resources available on every PC desktop. 1 Medical Librarian on staff FT.
Call Rooms	Call rooms could be expanded to accommodate students and residents.	Believe they can accommodate medical student needs in current building. Would have plenty of call rooms in new building for both medical students and residents	Believe they have enough now to accommodate both students and residents.	yes	yes	Believe they have plenty of space for call rooms. Have one entire floor that could be remodeled for call rooms.	3 small on call rooms used for specialists on call. No current facilities for trainee sleeping accommodations. Space available on campus for construction.
Space for Residency Programs	Yes	Space would be available in new building.	See notes under classrooms	Believe yes, both in the hospital and/or convent.	5 th floor has 60,000 square feet of open space where they would place residencies. Plan to build an outpatient clinic for residents	See notes under classrooms	None. Space available on campus for construction of academic center.
Allied Health Programs	Yes: see details under Bethesda Memorial Hospital	Have approximately 500-600 allied health students/year. Did not get details.	Yes: see details under Delray Medical Center	Yes: see details under Holly Cross section.	Yes: see details under JFK section.	None, but do have an active Pastoral Care education program	WPB VAMC has over 500 rotating students in various allied health training programs.
Nurse to Patient Ratios	Med/Surg 1:5 Telemetry 1:4 1:2 Units 80% RNs; 20% LPNs;	All RN model Med/Surg 1:6 ICU 1:2	All RN model (90-95% RNs with Care Partners or aides) Med/Surg 1:6 In process of developing Magnet status.	80 % RNs Med/Surg 1:4 or 1:5 Step Down and ER 1:3 CCU and OB 1:2 Have Magnet status.	1:6	1:2 ICU	Med/Surg-1:6 ICU-1:2 50% RN 18% LPN 32% allied health