



FLORIDA STATE UNIVERSITY
COLLEGE OF MEDICINE

**SOCIOECONOMIC
IMPACT STUDY**

2015 Update



CONTENTS

02

BACKGROUND

12

**PROGRESS IN FULFILLING WORKFORCE
AND SOCIAL IMPACT MISSIONS**

26

ECONOMIC IMPACTS

46

**ADDITIONAL EDUCATIONAL AND
SOCIAL IMPACTS**

72

**IMPACT OF FSU COLLEGE OF MEDICINE
RESEARCH**

86

CLOSING OBSERVATIONS



BACKGROUND

In its brief 15-year history, the Florida State University College of Medicine has developed rapidly in accordance with its founding plan. This report assesses the impact of the medical school over its first 15 years, and this chapter provides background information about its history and structure.



Introduction

When the FSU College of Medicine was established by the Florida Legislature in 2000, it became the first new allopathic medical school to be started in over two decades. Although the prevailing wisdom at that time was that the nation had an adequate supply of physicians to meet health-care needs, planners for the FSU medical school were able to demonstrate that Florida faced a variety of unmet needs related to providing primary care for elderly, rural and other underrepresented populations. Against considerable opposition, the enabling legislation for the College of Medicine assigned a very specific mission to the new school:

MISSION

The Florida State University College of Medicine will educate and develop exemplary physicians who practice patient-centered health care, discover and advance knowledge, and are responsive to community needs, especially through service to elder, rural, minority, and underserved populations.

From the outset, FSU's new medical school was the subject of much scrutiny. Some skeptics asserted that a medical school would not have success in placing its graduates in those areas of identified need, and that the College of Medicine would not be able to carry out its distinctive mission. Other skeptics challenged the distributed, community-based educational model that was being planned for the school. Still others suggested that the school would not produce top-quality graduates. As a result of such skepticism, the school developed a strong sense of accountability with a keen focus on documenting its results.

As it approached the 10th anniversary of its founding, the College of Medicine commissioned an external assessment that became known as the socioeconomic impact study. Such an external review was timely, as the college was just then reaching its planned full complement of 480 students in the M.D. program after an extended period of measured increases in the size of its entering classes. The assessment went well beyond a typical economic impact study to also assess the social and educational impacts of the school. While the report did, in fact, document that the college had contributed greatly to the economic well-being of the state and the six communities where it operated regional campuses, more importantly it also documented that the school was successful in building a high-quality educational program and was on track to meet the social mandates outlined in its enabling legislation as increasing numbers of graduates entered medical practice.

The socioeconomic impact report, published in late 2010, described the accomplishments of the new medical school to date and identified the challenges it still faced. Among the accomplishments noted were:

- A curriculum that provided much greater than average experience in the diagnosis and treatment of elders, resulting in graduates who expressed significantly greater confidence than their counterparts nationally in their ability to provide appropriate diagnosis and care for elder patients.
- A curriculum that provided significant levels of experience for students across all four years of training in clinics that provide care to underserved populations.

- An integrated admissions program and curriculum that resulted in unusually high proportions of students from rural backgrounds and alumni practicing in rural communities.
- Success in contributing to a more diverse physician workforce and recognition as being among the nation's best for serving minority students.
- A culture that valued the importance of primary-care physicians and resulted in graduates who were 30 percent more likely than their national counterparts to enter primary-care residency programs.
- The development of a high-quality instructional program as documented by student performance on national licensure exams, student satisfaction, and placement of graduates in highly selective residency programs where they attained chief resident status at above-average rates.
- Retention of graduates to practice in-state at a rate 60 percent higher than medical schools nationally.

The 10-year anniversary celebration of the College of Medicine included an invited address by the president of the Association of American Medical Colleges, Darrell Kirch, M.D. His observations underscored the findings of the 2010 socioeconomic impact study and further noted the college was becoming a national model for medical education:

"Every medical school, every university has a mission statement. They're all aspirational. Yours is focused, and you've been deadly serious about meeting it. You have the most focused mission statement I've ever seen for a medical school. And you're relentless in every one of your programs to line up your activities with that mission statement. That's the key ingredient.... I can't say enough good things about what you've accomplished.... The problem is now we need to extend it to other medical schools and to the entire health-care system."

-Darrell Kirch, M.D.
President & CEO of the Association of American Medical Colleges

The socioeconomic report closed by identifying the challenges and opportunities the College of Medicine faced for its further development:

- The need to pursue implementation of the newly adopted strategic plan that delineated four areas of excellence in teaching, research, service and clinical care, and community partnerships. Further development of research programs, in particular, was a high priority.
- The need for development of more residency programs — in response to a national problem that was particularly acute in Florida, where the number of M.D. graduates each year was projected to be significantly greater than the number of openings in in-state residency programs.
- A caution to avoid mission drift as past successes become taken for granted and new leaders are selected who may not be as committed to the founding mission of the college.

The report for the 2010 socioeconomic study was well received and became an important part of the college's communications with its array of stakeholders.



Overview of Findings

In July 2015 the FSU College of Medicine commissioned an update of the 2010 socioeconomic impact study. The update was designed to document whether the previously identified successes were being sustained and how the college was responding to the challenges and opportunities that it faced over the past five years.

Full enrollment buildout has enabled further strengthening of existing programs and development of new programs. As noted in the remainder of this report, the College of Medicine:

- Has gained increasing national recognition for the quality of its program, as evidenced by the college's leadership team assuming top roles in national professional organizations such as the Liaison Committee on Medical Education and the development of new and refined medical education programs that are modeled on the FSU success.
- Has received strong support from all the communities where its program trains students.
- Has continued to strengthen its instructional program, as evidenced by trends in admissions, licensure tests and residency placement data.

- Has continued to expand its research program, with increased numbers and dollar value of grants and a greater role emerging for community faculty in research activity.
- Has opened two new graduate medical education programs (Tallahassee — internal medicine, and Fort Myers — family medicine), assumed sponsorship and achieved ACGME accreditation of the Micrographic Surgery and Dermatology Oncology Fellowship in Tallahassee, and received initial accreditation for two additional programs (Tallahassee — general surgery and dermatology). A sixth new program is well underway (Sarasota — internal medicine).

This report concludes that the FSU College of Medicine has remained steadfast in pursuit of its founding mission to address the primary-care needs for Florida's elder, rural and other underserved populations while successfully implementing new programs that deliver economic and social benefit to the state.

Profile of FSU College of Medicine

Unlike traditional medical schools, the FSU College of Medicine has a community-based, distributed and ambulatory model of medical education. A “community-based” medical school is one that does not operate its own university-affiliated teaching hospital. In a “distributed” model, portions of the training program are offered in more than one geographic location. In the case of the College of Medicine, the first two years of the four-year instructional program occur primarily on the main campus in Tallahassee. The second two years of the program take place in a community setting through the auspices of a regional medical campus, with over 60 percent of student training time spent in doctors’ offices, clinics and other ambulatory settings.

The College of Medicine has grown into a network composed of the main campus in Tallahassee and six regional medical school campuses across Florida. The first three regional campuses, in Orlando, Pensacola and Tallahassee, received their first groups of third-year students in July 2003. Two years later, the first students reported to the Sarasota Regional Medical School Campus. The full complement of six regional campuses was achieved in July 2007 with the opening of the Daytona Beach and Fort Pierce regional medical school campuses. The map in **Exhibit 1-1** shows the geographic distribution of the six regional campuses, along with two special rural training sites and a clinical training site in Thomasville, Georgia.

Exhibit 1-1
Locations of FSU MED Campuses



In fulfillment of the directives in HB 1121, the community-based, distributed model employed by the College of Medicine depends on strong partnerships with a variety of affiliated health-care institutions. Statewide, the college has

affiliation agreements with 50 hospitals that collectively encompass over 9,000 acute-care beds. It also has affiliations with 58 county health departments, clinics, surgery centers and similar organizations. These critical partners are listed in **Exhibit 1-2**.

Exhibit 1-2

**Partners and Affiliated Institutions
Florida State University College of Medicine**

| Regional Medical Campuses | Partners in Medical Education | | |
|---------------------------|--|------------------|----------|
| | Organizational Name | Location | Type |
| Daytona Beach | Bert Fish Medical Center | New Smyrna Beach | Hospital |
| | Department of Health - Flagler County | Bunnell | Clinic |
| | Department of Health - Volusia County | Daytona Beach | Clinic |
| | Florida Health Care Plans | Holly Hill | Clinic |
| | Florida Hospital DeLand | DeLand | Hospital |
| | Florida Hospital Flagler | Palm Coast | Hospital |
| | Florida Hospital Memorial Medical Center | Daytona Beach | Hospital |
| | Halifax Health Systems | Daytona Beach | Hospital |
| | St. Vincent's Healthcare | Jacksonville | Hospital |
| | Stewart-Marchman-ACT Behavioral Healthcare | Daytona Beach | Hospital |
| | Surgery Center of Volusia | Port Orange | Clinic |
| | Twin Lakes Surgical Center | Daytona Beach | Hospital |
| | Volusia County Medical Society | Daytona Beach | Other |
| Fort Pierce | Children's Medical Services (Florida DOH) | Fort Pierce | Other |
| | Department of Health - St. Lucie County | Port St. Lucie | Clinic |
| | Florida Community Health Centers | Fort Pierce | Clinic |
| | Grove Place Surgery Center | Vero Beach | Clinic |
| | Indian River Medical Center | Vero Beach | Hospital |
| | Lawnwood Regional Medical Center | Fort Pierce | Hospital |
| | Martin Health Systems | Stuart | Hospital |
| | Port St. Lucie Hospital Inc. | Port St. Lucie | Hospital |
| | Raulerson Hospital | Okeechobee | Hospital |
| | Sebastian River Medical Center | Sebastian | Hospital |
| | St. Lucie Medical Center | Port St. Lucie | Hospital |
| St. Lucie Surgery Center | Port St. Lucie | Clinic | |

| Regional Medical Campuses | Partners in Medical Education | | |
|------------------------------------|--|------------------|----------|
| | Organizational Name | Location | Type |
| Fort Pierce | Surgery Center of Okeechobee | Okeechobee | Clinic |
| | Surgical Center at Jensen Beach | Jensen Beach | Clinic |
| | Surgical Center of the Treasure Coast | Port St. Lucie | Clinic |
| | Treasure Coast Center for Surgery | Stuart | Clinic |
| | Treasure Coast Community Health | Vero Beach | Clinic |
| | Treasure Coast Rehab (HealthSouth) | Vero Beach | Hospital |
| | VNA of the Treasure Coast | Vero Beach | Clinic |
| Orlando | Alliance Surgical Center | Lake Mary | Clinic |
| | Central Florida Regional Hospital | Sanford | Hospital |
| | Community Health Centers Inc. | Winter Garden | Clinic |
| | Department of Health - Seminole County | Sanford | Clinic |
| | Downtown Surgery Center | Orlando | Clinic |
| | Florida Hospital | Orlando | Hospital |
| | Nemours Children's Clinic | Orlando | Clinic |
| | Orange County Health Department | Orlando | Other |
| | Orange County Medical Examiner's Office | Maitland | Other |
| | Orange County Medical Society | Orlando | Other |
| | Orlando Center for Outpatient Surgery | Orlando | Clinic |
| | Orlando Health | Orlando | Hospital |
| | Orlando VA Clinic | Orlando | Clinic |
| | Physician's Surgical Care Center | Winter Park | Clinic |
| | South Lake Hospital | Clermont | Hospital |
| | St. Cloud Regional Medical Center | St. Cloud | Hospital |
| UF Cancer Center at Orlando Health | Orlando | Clinic | |
| Pensacola | Baptist Health Care | Pensacola | Hospital |
| | Children's Medical Services Northwest Region | Pensacola | Clinic |
| | Cornerstone Surgicare LLC | Pensacola | Clinic |
| | Covenant Hospice | Pensacola | Other |
| | Department of Health - Escambia County | Pensacola | Clinic |
| | Department of Health - Santa Rosa County | Milton | Clinic |
| | Department of Health - Walton County | DeFuniak Springs | Clinic |
| | Escambia Community Clinics Inc. | Pensacola | Clinic |
| | Escambia County Medical Society | Pensacola | Other |

| Regional Medical Campuses | Partners in Medical Education | | |
|---------------------------------|--|-------------------|----------|
| | Organizational Name | Location | Type |
| Pensacola | Fort Walton Beach Medical Center | Fort Walton Beach | Hospital |
| | Haven of Our Lady of Peace | Pensacola | Other |
| | Lakeview Center Inc. | Pensacola | Clinic |
| | Naval Hospital of Pensacola | Pensacola | Hospital |
| | Nemours Children's Clinic | Pensacola | Clinic |
| | North Okaloosa Medical Center | Crestview | Hospital |
| | Sacred Heart Health System | Pensacola | Hospital |
| | Santa Rosa Medical Center | Milton | Hospital |
| | VA Gulf Coast Health Care System | Pensacola | Hospital |
| | West Florida Hospital | Pensacola | Hospital |
| Rural Sites | Department of Health - Collier County | Immokalee | Clinic |
| | Healthcare Network of Southwest Florida | Immokalee | Clinic |
| | Jackson Hospital | Marianna | Hospital |
| Sarasota | Bay Pines VA | Bay Pines | Hospital |
| | Cape Surgery Center LP | Sarasota | Clinic |
| | DeSoto Memorial Hospital | Arcadia | Hospital |
| | Doctors Hospital of Sarasota | Sarasota | Hospital |
| | Doctors Same Day Surgery Center | Sarasota | Clinic |
| | Gulf Coast Surgery Center Inc. | Sarasota | Clinic |
| | Intercoastal Medical Group Ambulatory Medical Center | Sarasota | Clinic |
| | Lakewood Ranch Medical Center | Bradenton | Hospital |
| | Manatee Memorial Hospital | Bradenton | Hospital |
| | Sarasota County Medical Society | Osprey | Other |
| | Sarasota Memorial Health Care System | Sarasota | Hospital |
| Venice Regional Bayfront Health | Venice | Hospital | |
| Tallahassee | Anesthesiology Associates of Tallahassee | Tallahassee | Clinic |
| | Apalachee Center Inc. | Tallahassee | Hospital |
| | Archbold Medical Center | Thomasville, GA | Hospital |
| | Big Bend Hospice | Tallahassee | Other |
| | Bond Community Health Center | Tallahassee | Clinic |
| | Capital Health Plan | Tallahassee | Clinic |
| | Capital Regional Medical Center | Tallahassee | Hospital |
| | Doctors' Memorial Hospital | Perry | Hospital |

| Regional Medical Campuses | Partners in Medical Education | | |
|---------------------------|--|------------------|----------|
| | Organizational Name | Location | Type |
| Tallahassee | Florida State Hospital | Chattahoochee | Hospital |
| | Healthsouth Rehabilitation Hospital | Tallahassee | Hospital |
| | Memorial Hospital & Manor | Bainbridge, GA | Hospital |
| | Neighborhood Medical Center | Tallahassee | Clinic |
| | Red Hills Surgical Center | Tallahassee | Clinic |
| | Refuge House | Tallahassee | Other |
| | Southwest Public Health, District 8 | Thomasville, Ga. | Clinic |
| | Tallahassee Memorial HealthCare Inc. | Tallahassee | Hospital |
| | Tallahassee Plastic Surgery Clinic | Tallahassee | Clinic |
| | Tallahassee Single Day Surgery | Tallahassee | Clinic |
| | Tallahassee VA Outpatient Clinic | Tallahassee | Clinic |
| | Westminster Oaks | Tallahassee | Elder |
| Other - Residencies | Bayfront Medical Center | St. Petersburg | Hospital |
| | FSU COM Family Medicine at Lee Memorial | Fort Myers | Hospital |
| | Mayo Clinic Jacksonville - Family Medicine | Jacksonville | Hospital |
| | Morton Plant Hospital | Clearwater | Hospital |
| | St. Vincent's Medical Center | Jacksonville | Hospital |

Note: Shaded organizations have become partners since 2010.

Source: FSU COM.



In 2001, the College of Medicine had 82 faculty members, and that number grew to 1,823 by the time of the last study in 2010. Currently, the university employs nearly 2,400 faculty across its six campuses. The majority of these specialize in primary-care coursework (56 percent in 2015).

As is common in medical schools across the nation, most members of the clinical faculty devote the majority of their time to

patient care, while serving as instructors for third- and fourth-year medical students. **Exhibit 1-3** provides counts of the College of Medicine faculty by specialty and campus in 2015. The faculty members are supported by 447 full- and part-time technical and support staff.

The College of Medicine is fully accredited by the Liaison Committee on Medical

Exhibit 1-3

Faculty Specialization of Campus Florida State University College of Medicine

| Specialty | Daytona | | Fort Pierce | | Orlando | | Pensacola | | Sarasota | | Tallahassee | | All Campuses | |
|-------------------------|---------|----|-------------|----|---------|----|-----------|----|----------|----|-------------|----|--------------|----|
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Family Medicine | 76 | 26 | 24 | 10 | 76 | 10 | 36 | 15 | 38 | 11 | 112 | 24 | 362 | 15 |
| Pediatrics | 16 | 5 | 20 | 8 | 128 | 16 | 30 | 12 | 43 | 13 | 36 | 8 | 273 | 11 |
| Obstetrics & Gynecology | 18 | 6 | 15 | 6 | 86 | 11 | 21 | 9 | 32 | 9 | 24 | 5 | 196 | 8 |
| Internal Medicine | 79 | 27 | 80 | 32 | 114 | 14 | 71 | 29 | 103 | 30 | 56 | 12 | 503 | 21 |

Subtotal Primary Care Specialty

| | | | | | | | | | | | | | | |
|--|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|--------------|-----------|
| | 189 | 64 | 139 | 55 | 404 | 51 | 158 | 65 | 216 | 64 | 228 | 49 | 1,334 | 56 |
|--|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|--------------|-----------|

| | | | | | | | | | | | | | | |
|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|------------|
| Surgery | 44 | 15 | 91 | 36 | 160 | 20 | 37 | 15 | 58 | 17 | 48 | 10 | 438 | 18 |
| Geriatrics | 10 | 3 | 8 | 3 | 26 | 3 | 19 | 8 | 12 | 4 | 8 | 2 | 83 | 3 |
| Emergency Medicine | 14 | 5 | 8 | 3 | 45 | 6 | 9 | 4 | 15 | 4 | 23 | 5 | 114 | 5 |
| Psychiatry | 17 | 6 | 5 | 2 | 19 | 2 | 16 | 7 | 11 | 3 | 30 | 6 | 98 | 4 |
| Other | 22 | 7 | 1 | 0 | 133 | 17 | 3 | 1 | 28 | 8 | 128 | 28 | 315 | 13 |
| TOTAL | 296 | 100 | 252 | 100 | 787 | 100 | 242 | 100 | 340 | 100 | 465 | 100 | 2,382 | 100 |

Source: FSU COM.

Education (LCME). In October 2002, the college received “provisional accreditation,” which was the first step in what was then a two-step process. When it was granted “full accreditation” in February 2005, it became

the first new fully accredited medical school in the United States in more than 20 years. Full accreditation was reaffirmed for another eight-year period in 2011.



PROGRESS IN FULFILLING WORKFORCE AND SOCIAL IMPACT MISSIONS

As noted in MGT's socioeconomic impact study of the Florida State University College of Medicine in 2010, the college was designed to address specific needs in Florida's medical workforce and was already beginning to fulfill its workforce and social impact missions. This chapter reviews the College of Medicine's founding mission and its continuing impact on the size and composition of the state's supply of physicians.



OVERVIEW OF SOCIAL IMPACT MISSION

Medical education at FSU, beginning with its origins in the Program in Medical Sciences (PIMS), has always been driven by a strong sense of mission to have a positive impact on society. When the College of Medicine was established by the Florida Legislature in 2000, the framework for the college's founding mission was defined in HB 1121. In particular, the college and its programs are intended to:

- Contribute to the overall supply of physicians practicing in Florida.
- Focus on promoting careers in primary care.
- Ensure training in the medical needs of the elderly.
- Serve the rural health-care needs of the state.
- Increase participation of students from previously underrepresented groups.
- Address the medical needs of the state's underserved populations.

These guiding principles continue to provide strong direction for the College of Medicine's operations. In the remainder of this chapter, we assess the impact that the college is having on the people of Florida as it carries out its workforce and social impact missions.



IMPACT ON THE STATE'S OVERALL PHYSICIAN SHORTAGE

Early College of Medicine planning documents identified a troubling lack of access to physician care in Florida. Not only did Florida rank poorly among the major states in physicians per capita at the time, but the situation was projected to worsen. The state's population was growing at a rate faster than the nation's increase in physician supply, and Florida found itself unable to rely on surpluses of medical graduates from other states, as it had in the past, to meet its own physician workforce needs. Increasing the supply of physicians in the state became a major factor in building support for the proposed FSU College of Medicine and was specifically addressed in the preamble to HB 1121.

State leaders and College of Medicine planners recognized that solving the state's physician shortage required a long-term solution. As noted in the College of Medicine plan, more than a decade would be needed after legislative authorization for a new medical school before a significant increase in the stream of new physicians entering the state's medical workforce would be realized. After a brief period

to plan and prepare for the charter class of medical students at the new school, significant blocks of time were needed for:

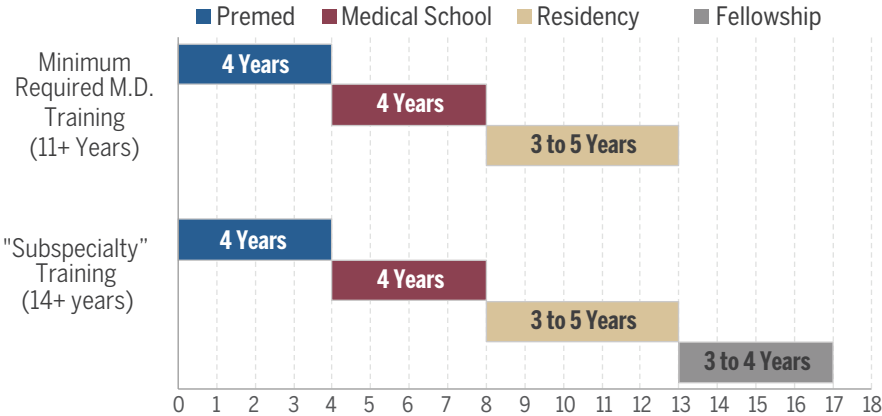
- College of Medicine leaders to build enrollment levels from the initial entering classes of 30 students to the full planned capacity of 120 new matriculants per year.
- Students to pursue medical training over a four-year period.
- Medical graduates to continue training in residency and fellowship programs lasting three-five years or longer before entering practice.

Fifteen years after its founding, nearly one-half of its first full class of 120 graduates have now entered practice, and significant numbers of new FSU-trained physicians are entering the state's workforce.

Exhibit 2-1 graphically depicts the times required for each phase of the medical training pipeline, beginning with a student pursuing a pre-med course of study before admission to medical school.

Exhibit 2-1

Years of Required Training in Medical Education



Source: MGT analysis, 2015.

The College of Medicine’s development generally proceeded according to the schedule in its original planning documents, which called for the college to eventually enroll 480 students across four classes and thereby produce 120 graduates per year. Enrollments reached full capacity in May 2010, and the first “full class” of approximately 114 students graduated in May 2011. These graduates began to complete residency training in 2014, and the college’s full impact on the state’s physician workforce can begin to be measured with more certainty than was possible in the 2010 socioeconomic impact report.

Evidence is growing that the College of Medicine has become a major contributor to growth in the Florida physician workforce. As seen in **Exhibit 2-2**, the college has produced 910 graduates with the Doctor of Medicine (M.D.) degree. Although 11 classes of graduates have completed the program since its inception, 63 percent of them to date finished in the past five years (574 graduates).

The College of Medicine maintains close contact with its alumni to monitor their progress in graduate medical education programs and entry into the profession. Of the 94 members of the graduating class of 2010, 61 have completed residency/ fellowship training and entered practice (65 percent), and 31 (more than half of the 2010 graduates) are now practicing in Florida. Of the 114 members of the graduating class of 2011, 53 have completed residency/ fellowship training and entered practice (46 percent), and 36 (more than two-thirds) are now practicing in Florida. The percentage capture rate is highest among the state’s medical schools and is nearly 30 percent greater than the national average of 39 percent for in-state retention of medical school graduates. Details on the status of the Class of 2010 and subsequent classes, most of whom are still in residency programs, are summarized in **Exhibit 2-2**.

Exhibit 2-2
Analysis of Status of Graduates 2010-15
Florida State University College of Medicine

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--|------|------|------|------|------|------|
| Number of Graduates | 94 | 114 | 117 | 114 | 115 | 114 |
| Number of Graduates in Residency/Fellowship Training | 33 | 60 | 77 | 112 | 110 | 112 |
| Percent of Graduates in Training | 35 | 53 | 66 | 98 | 96 | 98 |
| Number of Residents/Fellows Training in Florida | 10 | 18 | 27 | 36 | 44 | 35 |
| Percent of Residents/Fellows Training in Florida | 11 | 16 | 23 | 32 | 38 | 31 |
| Number of Graduates in Practice | 61 | 53 | 39 | | | |
| Percent of Graduates in Practice | 65 | 46 | 33 | | | |
| Number of Practicing Graduates in Florida | 31 | 36 | 22 | | | |
| Percent of Practicing Graduates in Florida | 51 | 68 | 56 | | | |

Source: FSU COM.

IMPACT ON SUPPLY OF PRIMARY-CARE PHYSICIANS

The need for greater numbers of medical graduates has become widely acknowledged across the nation. Enrollment at medical schools has grown by over 25 percent, and 16 new medical schools have been accredited since the FSU College of Medicine was established. While the numerous state and national studies that called for more graduates also documented the long-term trend of increasing proportions of medical graduates pursuing careers in medical specialties rather than primary care, growing deficits persist in these areas. Concern about this trend was already evident and the need for primary-care physicians became the focal point as plans were being developed for the College of Medicine.

The founding purpose of the College of Medicine, as stated in HB 1121, recognized Florida's need for primary-care physicians. It stated: "The College of Medicine shall be dedicated to ... preparing physicians to practice primary care...." Building on the success of the preceding PIMS program, the College of Medicine has embraced the mission of contributing to the state's supply of primary-care physicians (that is, those specializing in family medicine, internal medicine, obstetrics & gynecology, or pediatrics) through both the processes used to select students and the design of its curriculum.

The College of Medicine's initial strategy in its efforts to emphasize primary care focused on the processes used to select each entering class. Admission policies have been mission-based, considering geographic and socioeconomic background as well as evidence of community-based service.

The success of the careful recruitment of the college's students is seen in the responses of FSU College of Medicine students to questions on the Matriculating Student Questionnaire (MSQ), administered by the

Association of American Medical Colleges (AAMC). When asked why they chose the medical school they were attending and their career plans when they entered the program, recent FSU matriculants showed much greater attraction to primary care and working with underserved populations than their national counterparts:

- They were twice as likely as the national average to report opportunities and experiences in family medicine to be an important consideration in selecting their medical school (68.8 versus 34.4 percent).
- They were 32 percent more likely to report plans to practice in a primary-care specialty than the national average (59.6 versus 45.2 percent).
- They were 46 percent more likely to report plans to focus their practice on underserved populations than the national average (89.4 versus 57.6 percent).
- They were 13 percent more likely to report plans to participate in public health activities than the national average (44.7 versus 39.4 percent).

A second key element of the strategy to promote primary-care careers is the curriculum. As compared with most programs nationally, FSU College of Medicine students take more clerkship rotations in primary care under the supervision of carefully selected role models. Other curricular strategies include the three-week activity at the end of the first year sponsored by the Florida Area Health Education Centers (AHEC) and the community medicine clerkship in the third year, which both promote the primary-care mission.

Since students in medical schools do not declare a “major” and all students in the same school follow relatively similar programs, the first opportunity to observe whether the College of Medicine is more successful than its peers in actually producing primary-care physicians occurs on “Match Day.” The process by which all fourth-year medical students nationally make their initial determination of a medical specialty and seek acceptance into residency programs for the required additional training takes several months. The process culminates in March on Match Day each year. Students who match with a primary-care residency program are more likely to become practicing primary-care physicians.

The College of Medicine has demonstrated strong performance in graduates matching with primary-care residency programs. In the March 2015 match, 54 percent of its graduating class elected to pursue residency training in primary care, compared with only 41 percent nationally. This pattern has been similar throughout the College of Medicine’s brief history, with 56 percent of all its graduates pursuing residency in primary care since 2005 – 27 percent greater than the national proportion over the same period. The 54-percent match rate of College of Medicine graduates in 2015 is even more striking when compared with the 44-percent match rate for primary care in other Florida medical schools. **Exhibits 2-3 and 2-4** show the results for each of the College of Medicine’s past six graduating classes along with comparative national data.

Exhibit 2-3

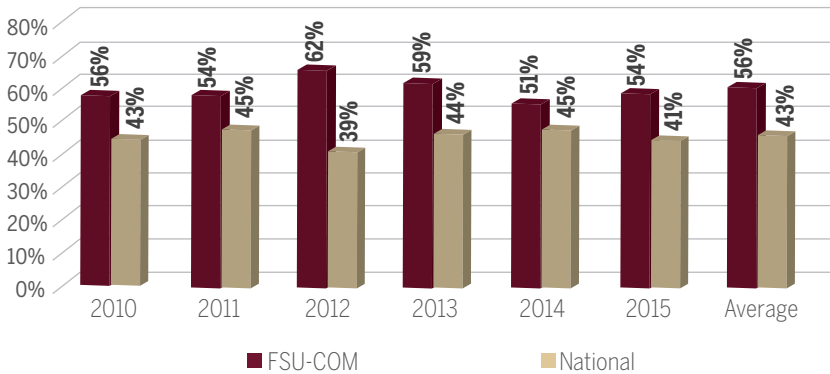
**Graduates in Primary-Care Residency Training
Florida State University College of Medicine**

| Year | FSU | | |
|--------------|------------------------------|----------------------|----------------|
| | Number of Graduates in Match | Primary-Care Matches | % Primary Care |
| 2010 | 93 | 52 | 55.9 |
| 2011 | 113 | 61 | 54.0 |
| 2012 | 115 | 71 | 61.7 |
| 2013 | 111 | 66 | 59.4 |
| 2014 | 113 | 58 | 51.3 |
| 2015 | 113 | 61 | 54.0 |
| TOTAL | 658 | 369 | 56.1 |

Note: Not all students enter the match immediately upon graduation from medical school, which accounts for the difference between the reported numbers of graduates in Exhibit 2-3 and Exhibit 2-4.

Source: FSU COM.

Primary-Care Proportions at the Florida State University College of Medicine vs. National Averages



Source: FSU COM and National Residency Matching Program.

As described above, the College of Medicine continues to see the fruits of its efforts as graduates of each entering class complete their residency training and enter practice. Of the 374 graduates who are known to be currently practicing, 211 (or 56 percent)

are practicing in a primary-care specialty. Most important, 124 of these primary-care physicians are practicing in Florida (58 percent of all alumni currently in practice in the state).

IMPACT ON ACCESS TO ELDER CARE

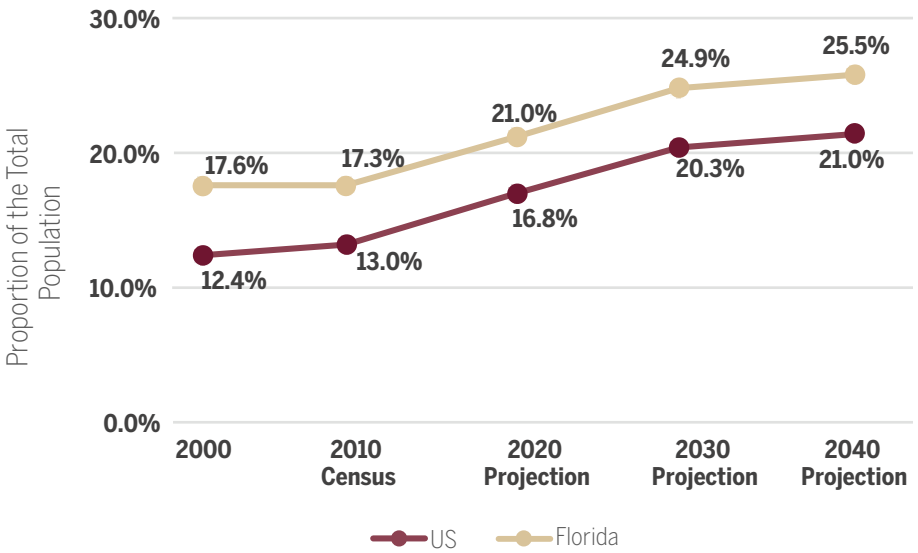
Florida is at the forefront of a significant national demographic trend of an aging population. An unusually high proportion of Floridians are over the age of 65 (17.3 percent in Florida compared with 13.0 percent nationally in 2010). Over the past decade, there has been growing awareness that the older age groups are among the fastest-growing cohort both in Florida and nationally. The 65-and-over population in Florida grew from 2.4 million in 1990 to 2.8 million in 2000, rose to 3.3 million in 2010 and is projected to reach 6.6 million by 2040. **Exhibit 2-5** shows the projected state and national growth in the 65-and-over population.

The relative increase in the elder population has significant impact on the need for physicians since older patients consume over twice the volume of medical services per capita as do younger groups. The older population mix and accompanying/correlated higher utilization rates create a significant demand for physicians in Florida to attend to the needs of elders.

Historically, the medical needs of elders have been handled by internal medicine or family practice physicians for primary care, along with frequent referrals to specialists for other types of needed care.

Exhibit 2-5

Growth of Population Age 65 and Over Florida and United States



Source: U.S. Bureau of Census.

An alternative approach is for physicians to specialize in geriatrics, a primary-care medical specialty that focuses on elders. Most geriatricians completed residency training in internal medicine or family medicine, and then pursued one to three years of additional fellowship training to specialize in the care of elders. Geriatrics is among the smallest specialty areas, with a little over 7,000 geriatricians nationwide (fewer than 1 percent of all physicians).

The existing shortage of geriatricians is likely to become even more acute as the population of the nation ages. It is projected that by 2030, approximately 31 million U.S. residents will be 75 or older. According to a recent article in Becker’s Hospital Review, the “American Geriatrics Society estimates that to meet the growing need for geriatricians, medical schools around the

country would have to train a minimum of 6,250 additional geriatricians — or 450 per year more than the current rate — between now and 2030.”

As directed in HB 1121, the College of Medicine has a separate Department of Geriatrics, one of only a few in the United States. The Geriatrics Department has the express purpose of educating all medical students, no matter what their eventual area of specialty, in the care and treatment of seniors. Students receive extra training with seniors in the continuum of Doctoring courses as well as through the required geriatrics clerkship. As a result, College of Medicine students average 359 contact hours training in the diagnosis and treatment of elders – an exposure significantly higher than students get in typical programs elsewhere.

IMPACT ON PHYSICIAN ACCESS IN RURAL AREAS

The state’s dwindling supply of physicians serving rural areas has been a long-standing concern that has influenced the development of medical education at FSU. Rural health care was a major factor in the establishment of PIMS in 1970, and the proposal and implementation plan for a new medical school at FSU emphasized Florida’s need for more physicians in rural areas. The preamble to HB 1121 noted that the Health Professional Shortage Areas in Florida were primarily in rural North Florida, and declared that one of the key purposes of the new FSU College of Medicine was to prepare physicians to practice rural medicine.

The college has addressed its rural mission through both its admissions practices and its curricular design. Results from the AAMC’s Matriculating Student Questionnaire for 2015 show that recent College of Medicine entrants have a markedly stronger attraction to rural medicine than their national counterparts:

- They were more than three times as likely as the national average to report opportunities and experiences in rural medicine to be an important consideration in selecting their medical school (68.8 versus 20.4 percent).
- They were more than three times as likely as the national average to report plans to practice in a rural or small community (32.0 versus 10.5 percent).

One research-based principle of medical school admissions is that students who come from rural backgrounds are more likely to pursue careers in rural medicine than their urban counterparts. Over time,

a significant number of entering students at the College of Medicine have come from the 33 statutorily defined rural counties in Florida. As seen in **Exhibit 2-6**, 50 students from rural counties have enrolled in the college over the past five years, accounting for 8.3 percent of all entering students. This compares with a 5.4-percent statewide representation of college-aged population from these same rural areas. The strength of the college’s commitment to its rural mission is further evidenced by the fact that only 5.9 percent of its applicants, compared with 8.3 percent of its matriculants, indicate they have rural backgrounds.

Exhibit 2-6

Entering Students with Rural Backgrounds 2011-15 Florida State University College of Medicine

| Group | Rural | Total | % Rural |
|--------------------------------|---------|-----------|---------|
| Florida Population, Ages 20-29 | 142,693 | 2,627,089 | 5.4 |
| Applicants to FSU COM | 1,434 | 24,113 | 5.9 |
| Matriculants to FSU COM | 50 | 600 | 8.3 |

Source: FSU COM

Perhaps the most visible feature of the College of Medicine’s curriculum related to rural medicine is the presence of rural training sites in Marianna and Immokalee. Marianna, in Jackson County with approximately 50,000 residents, provides a full complement of clerkships for students in the third year of the M.D. program through affiliations with local physicians, the 100-bed acute-care Jackson Hospital and the nearby Florida State Hospital in Chattahoochee.

The Marianna site recently adopted a “longitudinal integrated clerkship” (LIC) approach for clinical training. Under the LIC, students are expected to master the



same content and complete the same activities as students participating in traditional block clerkships under a more patient-centered approach, where time is spent each week on each of the six required rotations. In some cases, this enables the student to see how multiple specialties work together to address a patient's condition. Over the past several years, three to five students per class have elected to participate in the rural program during their third year before moving to one of the six regional medical campuses for their final year.

The Immokalee Health Education Site operates in affiliation with the Healthcare Network of Southwest Florida in a community with approximately 25,000 permanent residents and a migrant worker influx during harvest season that nearly doubles the population. From its beginnings as a small education site, Immokalee has grown significantly. Currently, four full-time teaching faculty, a clerkship administrator, 16 active clinical faculty and several support staff provide opportunities for educational experiences and research focused on rural health-care delivery and the distinctive needs of underserved populations. Like the Marianna site, the Immokalee site serves College of Medicine students from any of the regional campuses

who seek an elective rotation in a rural setting. The site offers a Summer Clinical Practicum for first-year students, as well as clerkships for both third- and fourth-year students. Last year, 42 College of Medicine students took advantage of Immokalee educational options. The site is also host to four Postdoctoral Health Psychology Fellows specializing in primary care.

In both rural locations, there is considerable anecdotal evidence of the positive community impact the College of Medicine continues to have through education, health care and community service.

The college now has 381 graduates who have completed residency training and are in practice. Of the 201 of those graduates who are practicing in Florida, 28 (13.9 percent) are serving rural populations. This rural placement rate is more than double the proportion of rural population in the state. Detailed analyses of rural placements for those graduates practicing in other states has not been conducted, but anecdotal evidence suggests an above-average proportion of those graduates are also practicing in rural settings.

IMPACT ON DIVERSITY OF MEDICAL WORKFORCE

Racial and ethnic minorities have long been underrepresented in the state and national physician workforce. This disparity not only is a concern for social equity, but also has direct impact on the capacity to provide needed care to medically underserved populations. As noted in the plan to establish the College of Medicine, minority physicians have a greater propensity to practice in underserved areas.

HB 1121 recognized the state’s need for greater diversity in the physician workforce and directed the college to provide “access to medical education for groups which are underrepresented in the medical profession.”

One key element of the minority recruitment strategy for the College of Medicine (and its predecessor PIMS) has been to develop a pipeline of future applicants through the Science Students Together Reaching Instructional Diversity & Excellence program (SSTRIDE). The “pre-collegiate” component of SSTRIDE exposes middle and high school students to potential medical careers through tutoring,

mentoring, enrichment activities and summer camps, where education in the basic sciences is reinforced. It’s based in five Panhandle counties along with Orange and Collier downstate. A corresponding undergraduate SSTRIDE component offers similar services to students in the three public colleges and universities in the Tallahassee area.

A second element of the minority recruitment strategy is the Master’s Bridge Program. In this effort, the College of Medicine enrolls minority and rural students who have what it takes for medical school but need a little more coaching in the basic sciences. Students who meet academic and other criteria in both instructional and health-care settings earn a master’s degree and admission to the medical school. As seen in **Exhibit 2-7**, the Bridge Program admitted 74 students over its first 10 years, and 63 became M.D. graduates of the College of Medicine (85 percent). Importantly, more than three-quarters of the physicians from the Bridge Program are in primary care.

Exhibit 2-7

Enrollment & Outcomes of Bridge Program Florida State University College of Medicine: 2001-10

| Year Admitted | Total Admitted | Total Graduates | Primary-Care Residency | Subspecialty Residency |
|---------------|----------------|-----------------|------------------------|------------------------|
| 2001 | 5 | 4 | 3 | 1 |
| 2002 | 5 | 5 | 4 | 1 |
| 2003 | 4 | 2 | 1 | 1 |
| 2004 | 6 | 5 | 2 | 3 |
| 2005 | 6 | 6 | 5 | 1 |
| 2006 | 9 | 7 | 6 | 1 |
| 2007 | 10 | 8 | 7 | 1 |
| 2008 | 9 | 9 | 7 | 2 |
| 2009 | 10 | 9 | 8 | 1 |
| 2010 | 10 | 8 | 6 | 2 |
| Totals | 74 | 63 | 49 | 14 |
| % | | 85% | 78% | 22% |

Exhibit 2-8

Alumni Who Entered Through the Bridge to Clinical Medicine Program – Practice and Specialty: 2006-12

| Grad Year | Total Alumni in Practice | Primary-Care Practice | Subspecialty Practice | Florida | Out-of-State Practice |
|---------------|--------------------------|-----------------------|-----------------------|------------|-----------------------|
| 2006 | 3 | 3 | 0 | 1 | 2 |
| 2007 | 5 | 4 | 1 | 4 | 1 |
| 2008 | 3 | 2 | 1 | 2 | 1 |
| 2009 | 2 | 1 | 1 | 1 | 1 |
| 2010 | 4 | 4 | 0 | 0 | 4 |
| 2011 | 5 | 5 | 0 | 3 | 2 |
| 2012 | 2 | 2 | 0 | 2 | 0 |
| Totals | 24 | 21 | 3 | 13 | 11 |
| % | | 88% | 14% | 54% | 46% |

Source: FSU COM

Of the 24 Bridge Program alumni between 2006 and 2012 who are currently in practice, 21 (nearly 90 percent) are in primary care. More than half practice in Florida (54 percent), as shown in **Exhibit 2-8**.

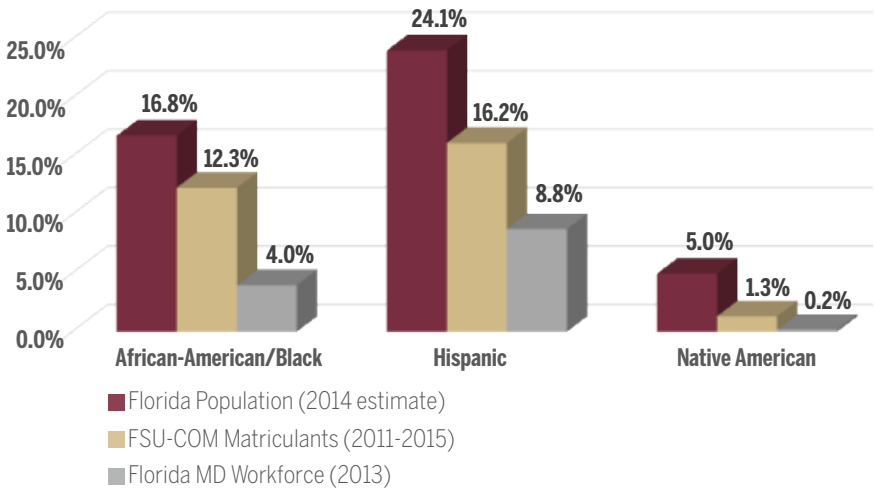
The evidence of the success of these programs is strong. Of the recently matriculated 120-member Class of 2019, approximately 25 (one-fifth of the class) were enrolled as a direct result of one of the College of Medicine’s outreach programs and contribute to a much more diverse student body.

“ She is committed to devoting her future career to working with the disadvantaged to eliminate health-care disparities. She sees this career goal not as a hobby, not as a job or even a career, but as a calling, and is living out this calling as a student by her volunteer and service activities in her community. ”

– **Professor Curt Stine on Shermeeka Hogans-Mathews** (M.D., '15)



Diversity of the State of Florida, Entering Students at Florida State University College of Medicine, and the Florida M.D. Workforce



Source: FSU COM, AAMC's 2013 Minority Physician Database, and U.S. Census Bureau.

Exhibit 2-9 provides data on the ethnic diversity of the college's student body over the years, along with comparison to the state's population and physician workforce. Over the past five years, nearly 15 percent of College of Medicine students have been African-American and nearly 17 percent Hispanic. The College of Medicine's proportion of African-American and Hispanic students far exceeds their representation in the state medical community and mirrors the overall mix of the state population more closely than most other professional schools. The representation of racial and ethnic minorities among the college's student body significantly exceeds their presence among Florida's current M.D. population. The college's success in serving minority students has been widely noted. For the fifth time, it was ranked among the nation's top 10 for Hispanic students by *Hispanic Business* (2014).

IMPACT ON MEDICAL CARE FOR OTHER UNDERSERVED POPULATIONS

HB 1121 also stated its intent that the College of Medicine devote attention to medical needs of all types of underserved populations, and included the directive that "Various short-term clinical exposures shall be programmed throughout the pre-clinical years, including ... minority health." The college has responded to this intent through the structure and location of its required courses.

Full-time physician faculty members provide care to underserved populations at local facilities, including assignments at the local community health center, rural Department of Health facilities, a school-based health center and a domestic violence center. These sites also serve as clinical locations for first- and second-year students throughout the state to reinforce clinical skills and gain experience in caring for the underserved. Learning opportunities include:

- The yearlong Doctoring 1 course that teaches basic history and physical skills.
- The community preceptorship program, where students spend a half day every other week with a community-based primary-care physician.
- A three-week clinical immersion course (the Summer Clinical Practicum) at the end of the first year, in which every first-year student is placed with a primary-care physician. The college especially seeks out those physicians who treat underserved populations for these courses.

The integrated curriculum has unifying goals to teach basic clinical skills, incorporate the biopsychosocial model of illness, and emphasize the dynamic relationship between biological, psychological, social and cultural factors of human illness.

Once students begin clerkships in the third year of the curriculum, the emphasis continues with students developing their understanding of and skills for meeting the medical needs of underserved populations. In particular, the third-year, three-week Community Medicine Clerkship is required for all students at the regional campus sites and is designed to broaden students' understanding of the role played by community agencies in health

promotion and disease prevention. Other opportunities include multiple rotations at the Immokalee Health Education Site, which draws much of its clientele from migrant populations.

Also, faculty members extend medical outreach through trips to rural villages in Panama and Nicaragua and to migrant farmworkers in Immokalee to deliver health care to people who have very little or no access.

SUMMARY OBSERVATIONS ON MISSION FULFILLMENT

A considerable amount of time has been required to build and develop a new medical school at FSU, and especially to measure its quantitative and qualitative results and impact. Nonetheless, 15 years after its legislative authorization, the College of Medicine is a clear success. Its M.D. program has now operated at its full enrollment capacity for five years and is producing a significant number of new physicians for the state.

But the success in its first 15 years is more than quantitative growth – it has effectively fulfilled the mission that was envisioned for the new medical school when it was established by state leaders. It has outperformed its state and national peers on many measures related to primary care, elder care and attention to the needs of medically underserved populations.





ECONOMIC IMPACTS

In addition to its role in expanding Florida's physician workforce and improving health care and educational access for underserved populations, the Florida State University College of Medicine also produces a tangible economic benefit for the state and for each of the communities in which it operates. This chapter of the report documents the expenditures in each region and across the state by the College of Medicine and its affiliates to estimate the economic impact of the medical school on the state and selected communities.



METHODOLOGY

The economic analysis provided a short-term, or current, perspective of the College of Medicine's programs and the associated economic impacts on the program areas' economies. The impact analysis provides a summary of the local area economic impacts (in 2015 dollars) associated with the college's programs. The impacts were measured with respect to output, employment and income.

Included below are technical descriptions of the economic modeling resources and approach utilized to estimate output-, labor- and income-related aspects of economic impact.

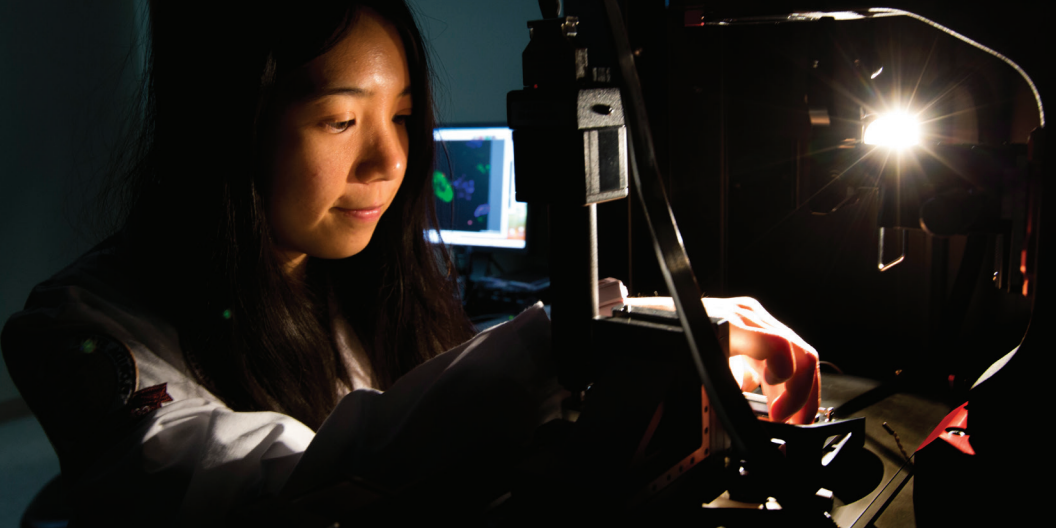
Economic Impact Model Input Data

Members of the MGT and FSU CEFA research team worked with the College of Medicine staff to collect actual expenditures data (spending) between the years 2011 and 2015 (the most recent five full years of data available). The input data used for this study were for 2015 county-level expenditures on: construction or capital outlay, equipment, staff salaries, utilities and other expenses. In addition to the college's program expenses, visitor and student spending data were also estimated and accounted for in the overall impact model. Program expenses were ultimately accounted for as they flowed from a series of different funding sources, including educational and general (E&G), contracts and grants (C&G), auxiliary operations, the FSU Research Foundation and the FSU Foundation, as well as physician practice plans for Pensacola, Sarasota, Tallahassee/main campus and Immokalee program areas. It should be noted that there was no visitor or student spending reported for the Immokalee program area.

Measuring Economic Impact

In order to measure economic impact, economists trace the course of spending through an economy to determine the total effect of that spending. One of the first steps in economic impact analysis is to decide what the area of impact is where the economic impact is to be measured. These areas often include the local economy, the state-level economy or even the national economy.

Economic impacts are effects on the levels of activity in a given area. They may be expressed in terms of: 1) business output (or sales volume); 2) value added (or gross regional product); 3) wealth (including property values); 4) personal income (including wages); or 5) jobs. Any of these measures can be an indicator of improvement in the economic well-being of the area community. The net economic impact is viewed as the expansion (or contraction) of an area's economy, resulting from changes in a facility or project, or in assessing the economic impact of an already existing facility or project. Economic impacts are different from the valuation of individual user benefits and the broader social impacts (amenity value) of a facility or project. However, assuming they can be quantified, they may be included to the extent they affect an area's level of economic activity. Short-term economic impacts are the net changes in regional output, earnings and employment that are due to new dollars entering a region from a given enterprise or economic event.



Spending & Impact Definitions

The total economic impact from an activity includes its direct spending as well as indirect and induced effects of its spending. The direct impacts of an activity include such spending as payroll, goods and services, and construction. Additional components of impact include indirect and induced effects, where indirect effects are defined as the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output), while induced effects are caused by changes in household spending due to the additional employment generated by direct and indirect effects.

The indirect and induced effects consist of such things as spending by employees, spending by employees of businesses to which direct spending is made, and purchases made by businesses to which direct spending is made. A chain reaction of indirect and induced spending continues, with subsequent rounds of additional spending gradually diminished through savings, taxes and expenditures made outside the region. Other considerations and measures associated with the calculation of economic impact include:

- **Labor income:** consists of employee compensation and proprietary income.
- **Labor income multiplier:** for every dollar change in final-demand spending (direct output), the change in income received by households.
- **Output:** Industry output is a measure of the value of goods and services produced in the study area.
- **Output multiplier:** An output multiplier for a sector is defined as the total production in all sectors of the economy that is necessary to satisfy a dollar's worth of final demand for that sector's output (Miller and Blair, 1985). In other words, every dollar change in final-demand spending (direct output) changes the total value of output in all sectors.
- **Proprietary income:** consists of payments received by self-employed individuals as income. This includes income received by private business owners, doctors, attorneys and so forth.

The economic ripple effect described above is measured by what is known as an “Input-Output” economic impact model, which uses a series of “multipliers” to provide estimates of the number of times each dollar of “input,” or direct spending, cycles through the economy in terms of “indirect and induced output,” or additional spending, personal income and employment.

Exhibit 3-1 below presents a depiction of the flow of direct, indirect and induced impact in a community, and the associated derivation of the multipliers used to estimate total economic impact. For simplicity’s sake, the illustration assumes

that, for every \$1 invested in a community by the focus organization, the recipients of those funds will spend 60 cents in the local economy, while 40 cents is saved, is taxed or otherwise escapes out of the market area. The 60 cents that is reinvested into the local economy endures a second cycle of spending, losing another 40 percent of its magnitude, and so on, until the “next wave” diminishes to zero. In this example, with 60 percent of funds being retained in each transaction, the multiplier has a value of 2.50. That is, every \$1 spent in the market results in approximately \$2.50 of output in the local economy.

Exhibit 3-1
Illustration of Multiplier Effect

| Timeline | Dollars Spent on Local Goods and Services | Dollars Spent on Non-Local Goods and Services (40% “Leakage”) |
|-------------------------------------|---|---|
| Initial Investment into Community | \$100.00 | - |
| 2nd Cycle of Spending | \$60.00 | \$40.00 |
| 3rd Cycle of Spending | \$36.00 | \$24.00 |
| 4th Cycle of Spending | \$21.60 | \$14.40 |
| 5th Cycle of Spending | \$12.96 | \$8.64 |
| 6th Cycle of Spending | \$7.78 | \$5.18 |
| 7th Cycle of Spending | \$4.67 | \$3.11 |
| 8th Cycle of Spending | \$2.80 | \$1.87 |
| 9th Cycle of Spending | \$1.68 | \$1.12 |
| 10th Cycle of Spending | \$1.01 | \$0.67 |
| etc. | ... | ... |
| Sum of Dollars Spent Locally | \$250.00 | \$100.00 |
| Derived Multiplier | 2.50 | - |

Source: MGT hypothetical illustration.

Analysis Regions

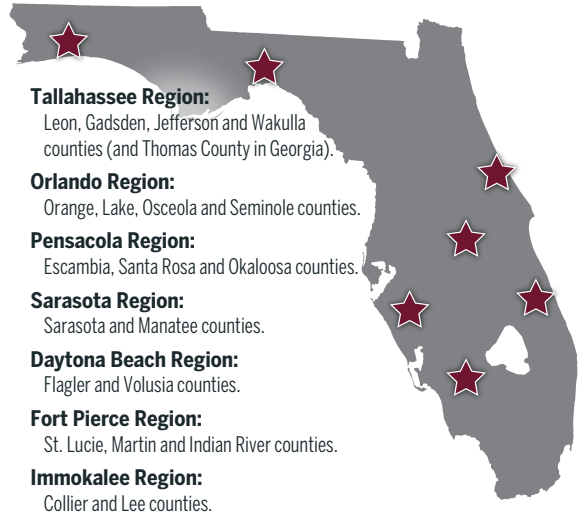
The magnitude of multipliers varies depending on the composition of what is defined as the local market. Central to this consideration is the notion that expenditures toward some industries have higher rates of retention (or leakage) than others; for example, a large proportion of utility expenditures are not likely to be retained locally, as a substantial share will leak to foreign commodity suppliers, while another large segment will be pulled out of the local economy by taxes, and another will presumably go to domestic companies that are located outside of the market. As an alternative illustration, large proportions of expenditures in construction typically remain within the local market, as most expenses go toward local laborers' wages and/or local construction companies' profits. It follows that the definition of the market area included in an economic impact analysis determines the value of embedded multiplier effects.

In concert with variations by industry or the type of good or service being purchased, the magnitude of the multiplier effect associated with an economic activity varies based on the scale and scope of the encompassed populations and industries. It follows that the more goods and services that are available within the defined local economy, the more times the directly invested dollars can roll over. Therefore, larger multiplier values are associated with larger focus economies or market areas.

For the purposes of this study, markets have been defined according to delineations of assorted constituent groups. The first delineation for this analysis encompasses the state of Florida, corresponding with

the college's primary funding source, the state taxpayer. The second analysis segments the impact across the six "local" economies corresponding with the College of Medicine's regional campuses.

These were defined as follows:



The areas defined above for each of the local economies generally reflect the counties included in respective Metropolitan Statistical Areas (MSAs) for each of the regional campus locations, as defined by the U.S. Office of Management and Budget. The counties included in MSAs are characterized as having "a high degree of social and economic integration (as measured by commuting to work) with the urban core." However, several of the MSAs corresponding with campus locations have been supplemented with additional counties to account for specific instances where an adjacent county houses partnering organizations where students are being trained; specifically, Thomas County, Georgia, was added to the Tallahassee Region; Okaloosa County was added to the Pensacola Region; Flagler County was added to the Daytona Beach Region; and Indian River County was added to the Fort Pierce Region. It

should be noted that, because of increasing magnitudes of the multipliers as market areas increase in size and scope, the sum of the six local impacts is less than the broader impact measured for the statewide analysis: a case where the whole is greater than the sum of its parts.

Economic Impact Model - IMPLAN

In order to obtain estimates of the different types of macroeconomic effects of the College of Medicine's programs on the Florida economy, a well-established analytical tool known as the Impact Analysis for Planning, or IMPLAN, model was used. IMPLAN is a widely accepted integrated input-output model. It is used extensively by state and local government agencies to measure proposed legislative and other program and policy economic impacts across the private and public sectors. In addition, it is the tool of choice to measure these impacts by a number of universities and private research groups that evaluate economic impacts across the state and nation. There are several advantages to using IMPLAN:

- It is calibrated to local conditions using a relatively large amount of local county-level and state-specific data;
- It is based on a strong theoretical foundation; and
- It uses a well-researched and accepted applied economics impact assessment methodology supported by many years of use across all regions of the U.S.

The economic impact model used for this analysis was specifically developed for the counties of Florida, and it includes 440 sectors and the latest published dataset – year 2013 data. IMPLAN's principal advantage is that it may be used to estimate direct, indirect and induced economic impacts for any static (point-in-time) economic stimulus. IMPLAN (Impact analysis for PLANning) is an economic impact model used to measure both direct and secondary (indirect and induced) impacts that a particular activity or industry brings to the economies and surrounding communities where the activity or industry is located. The IMPLAN model examines inter-industry relationships in the local, regional and national economies. IMPLAN provides estimates of indirect and induced output, income and employment impacts based on accepted industry multipliers.

Concerning the economic impact analysis results based on the 2011-15 expenditures data, once the aforementioned economic modeling inputs were entered and the economic modeling analysis had been performed, the economic model provided the following economic impacts, expressed as output (or sales/revenues), employment (or jobs) and income (or wages). The following tables present the total economic impacts, and the direct, indirect and induced economic impact results, respectively, in nominal dollars. The output generated represents the value of final goods and services produced across the program area economies as a result of the sales/revenues generated by College of Medicine activities during those years, in nominal or current dollars.

STATEWIDE ECONOMIC IMPACT

The most comprehensive measure of impact is the College of Medicine's influence on statewide economic activity, since it operates, in part, based on funds provided by taxpayers throughout Florida. In this section of the report we revisit the first 10 years of impact for the college through 2009-10, and then proceed to examine the cumulative impact of the college's operations in the state over the most recent five-year period, spanning from 2010-11 through the 2014-15 fiscal year, the last year for which data were available.

Regarding the economic impact analysis results, the project research team found that College of Medicine programs generate \$826 million in economic output in the area (\$496 million in direct, and \$330 million in indirect and induced impacts) and almost \$300 million in income (\$199 million in direct, and \$99 million in indirect and induced impacts), while generating a total of 7,726 jobs (direct, indirect and induced impacts).

The First 10 Years of Operation

The first 10 years of operation served as the runway to establish the foundations and infrastructure of the College of Medicine while building up to full enrollment capacity. It officially began development during the 2000-01 fiscal year, with its first class enrolled the following year, while construction and development of the full program capacities continued through the decade. The major advancements along this timeline include:

- Planning and recruitment expenditures were disbursed in 2000-01 before the first class enrolled.
- The first students (Class of 2005) enrolled in the summer of 2001, utilizing the existing (i.e., PIMS) facilities.
- Construction of the medical complex in Tallahassee (including Thrasher and Research buildings, as well as additional capital outlays) stretched between 2001-02 and 2006-07.
- Regional campus operation was initiated in 2003-04 in Tallahassee, Pensacola and Orlando, as the inaugural (Class of 2005) students entered their third year.
- Two years later, in 2005-06, the Sarasota campus enrolled its first students.
- The first third-year medical students enrolled at the Daytona Beach and Fort Pierce campuses in 2007-08.
- Full operational capacity (approximately 480 medical students, as well as 10 Bridge Program and 34 graduate students) was attained at the beginning of the 2010-11 academic year.
- Total impact over the first 10 years of operation totaled about \$1.043 billion.

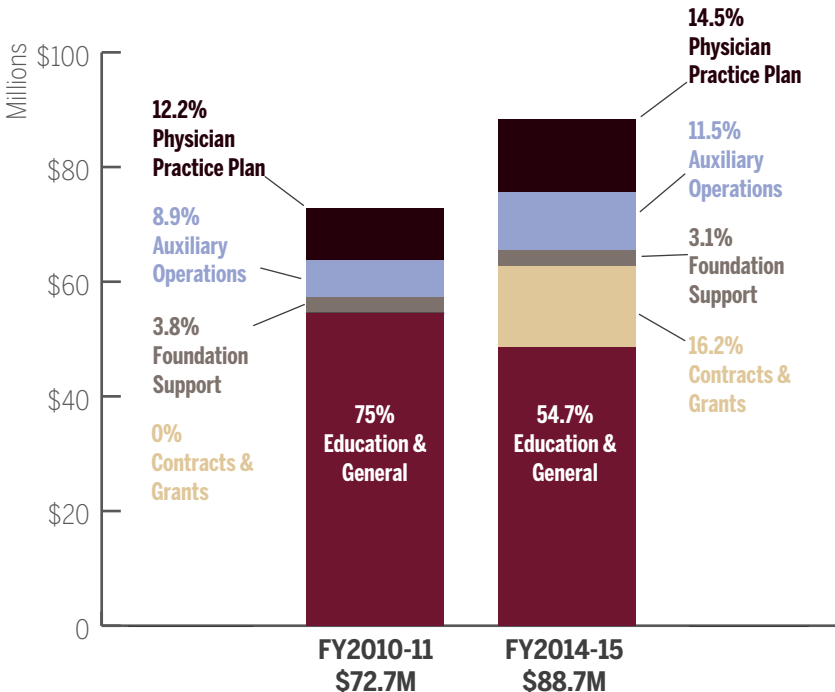
Expenditures and Impact Through 2015

In the years since attainment of full enrollment capacity in 2010, the College of Medicine has maintained peak enrollment capacity but continued to grow and mature in other respects. While much of the past five years has been characterized by a tight fiscal climate and budget reductions that have led to diminishing educational and general (E&G) revenues, diversification

of the college's streams of revenue support – particularly contract- and grant-funded activities – has allowed it to continue to expand its level of activity and impact in its service regions. A summary of the trend in expenditures by revenue source is presented in **Exhibit 3-2** below, which highlights a 24-percent increase in overall expenditures juxtaposed against a 10-percent decline in E&G-funded activity. This translates to a greatly enhanced Return on Investment (ROI) offered to the taxpayers of Florida for their support of the enterprise.

Exhibit 3-2

Total Expenditures by Revenue Source of the Florida State University College of Medicine



Source: MGT of America analysis of expenditure data provided by Florida State University College of Medicine.

The total expenditures and impact of the college's operations and related activities from FY2010-11 through FY2014-15 are displayed in **Exhibit 3-3**:

- Over \$480 million has been expended by the College of Medicine or its affiliates since 2010-11.
- Annual expenditure levels have increased over the period, approaching \$103 million each of the past two years.
- Based on the most recent year's (2014-15) data, more than \$160 million in impact will occur on an annual basis each successive year of full-capacity operation.

- Recently secured grants and continuing expansion of the research and technology transfer programs (see Chapter 5) suggest continuing enhancements to both the expenditure and impact streams.
- The cumulative investment into state and local economies is expected to exceed an impact of \$2 billion by 2015-16.

Taxpayer Return on Investment

An assessment of resource investments often entails an analysis to determine the return that is experienced on those funds. It can be demonstrated that state taxpayers' contributions toward the College of

Exhibit 3-3

Total Expenditures & Statewide Economic Impact of the Florida State University College of Medicine 2015 Constant Dollars

| | Institutional | Student Spending | Visitor Spending* | Total |
|------------------------------|----------------------|---------------------|--------------------|----------------------|
| Reported Expenditures | | | | |
| FY2014-15 | \$88,651,834 | \$13,903,114 | \$153,901 | \$102,708,849 |
| FY2013-14 | \$88,999,603 | \$13,832,208 | \$153,596 | \$102,985,407 |
| FY2012-13 | \$82,837,368 | \$13,611,148 | \$149,549 | \$96,598,066 |
| FY2011-12 | \$78,928,896 | \$13,415,114 | \$147,108 | \$92,491,119 |
| FY2010-11 | \$72,699,651 | \$13,142,613 | \$142,500 | \$85,984,765 |
| Five-Year Total | \$412,117,353 | \$67,904,198 | \$746,654 | \$480,768,205 |
| Economic Impact | | | | |
| FY2014-15 | \$151,151,709 | \$14,129,306 | \$208,670 | \$165,489,685 |
| FY2013-14 | \$147,869,499 | \$13,337,657 | \$206,985 | \$161,414,141 |
| FY2012-13 | \$153,028,560 | \$14,240,826 | \$224,830 | \$167,494,216 |
| FY2011-12 | \$164,448,953 | \$14,293,135 | \$239,663 | \$178,981,751 |
| FY2010-11 | \$138,342,844 | \$14,067,011 | \$236,466 | \$152,646,322 |
| Five-Year Total | \$754,841,565 | \$70,067,935 | \$1,116,615 | \$826,026,115 |

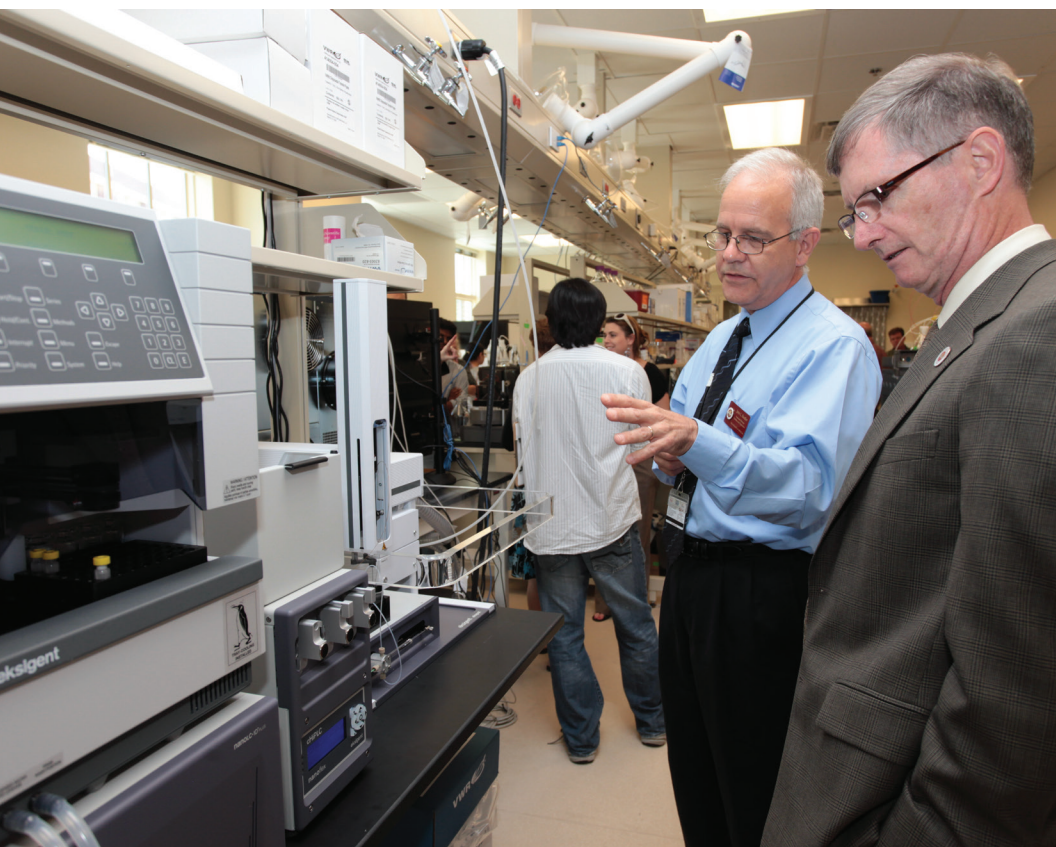
* Visitor spending adjusted for enrollment variation by year.

Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

Medicine's operation have yielded extremely fruitful results. The most recent accounts of operations include the following:

- The college received about \$35 million in public funds (\$34,404,267 in general revenue and \$605,115 in Lottery) toward its operations in 2014-15.
- As demonstrated, the total economic impact for this same period totaled nearly \$165 million.
- The annual return on investment (total benefits divided by funds invested) amounted to nearly 473 percent, exclusively in terms of economic benefit.
- This ratio is up substantially from the already impressive 410 percent ROI estimated in 2010.

While any investment would be expected to roll over and multiply into a two-fold impact, the quadrupling of public expenditures is a powerful testament to the significance of the college's operation. Furthermore, when consideration is given to the immeasurably important contributions to expanding critical needs in the physician workforce and improving the quality of health care throughout the state, the college's value added relative to public contributions cannot be overstated.



ECONOMIC IMPACT ON SIX COMMUNITIES

Overview of Campus Communities

While the operations of the six regional campuses are approximately equivalent, the context for their operations varies substantially with respect to the types of cities hosting the campus, the facilities utilized in the region, and the types of partnering organizations. While each campus has a capacity of 40 students (20 per class of third- and fourth-year medical students) operating within a facility of approximately 5,000 square feet, some variation exists in populations and other circumstances associated with each region:

The Tallahassee campus is unique in that the regional campus is located in the same city as the main FSU campus. Thus, local impact entails the substantial capital investments involved in construction of the Thrasher and Research buildings, as well as each site's ongoing operations.

- While the main campus's presence results in local expenditure levels that are much larger than the levels observed for other regions, the local multipliers associated with these expenditures are less substantial factors than those observed for most other regions. This is due to a smaller encompassed population in market area counties (about 379,000 individuals reside in the four counties included in this region).

Similar to the Tallahassee regional campus, the **Orlando and Pensacola campuses** also operate in free-standing leased facilities that were renovated according to required specifications. Pensacola's market area is close to the median value among regional locales, with about 661,000 residents across three counties. By contrast, market area population for the Orlando campus includes over 2.3 million residents, as opposed to approximately

400,000 to 700,000 in the service areas of other campuses. This results in the largest multiplier effect for this campus.

The Sarasota campus also operates within a free-standing, renovated facility located near the downtown of its home city. About 741,000 residents are included in the two encompassed market area counties.

The Daytona Beach and Fort Pierce campuses are both located in newly constructed facilities built on the campuses of local community/state colleges (Daytona State College and Indian River State College, respectively). FSU assisted in the construction of the facilities and maintains lease agreements with the colleges for ongoing use.

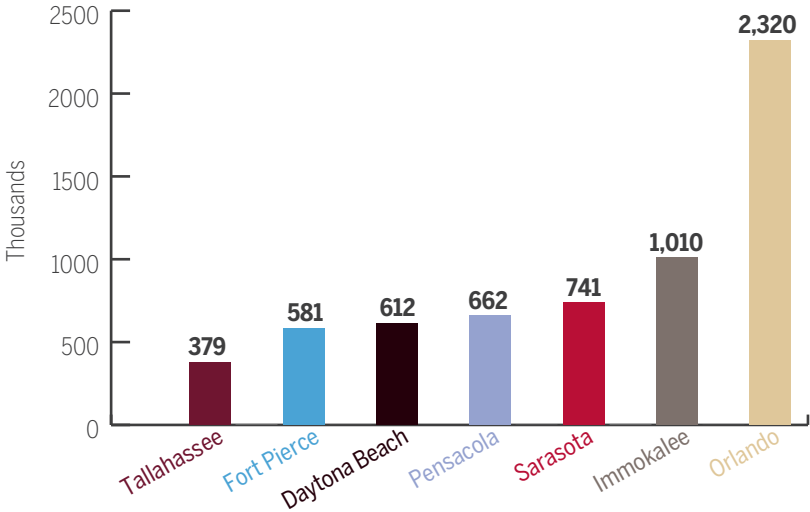
- The market area population in the Daytona Beach service area includes about 612,000 residents, while the Fort Pierce market encompasses about 581,000 residents. Though Fort Pierce's market area population is larger than the Tallahassee region, the local multipliers for this region are actually the smallest effects observed among campuses, presumably because of the presence and mix of local industries.

The Immokalee area population totals just over 1 million between Collier and Lee counties.

A general rule of measuring economic impact is that the less industry encompassed by a study area, the smaller the associated multiplier. This correlates with smaller geographic areas as represented by each of the campus market areas.

Exhibit 3-4

Campus Market Area Populations (April 2015)



Source: Florida Legislature's Office of Economic and Demographic Research, April 1, 2015 Population Estimates.

“ I think all of the regional campuses do a great job with us. You get even more one-on-one attention. You're in the clinical settings, and then you get to come back and catch up with all your friends but also talk about and learn from your experiences during the week. I think it's a great way of doing it. ”

– **Tanya Evers** (M.D., '08)



Campus Expenditures and Impact

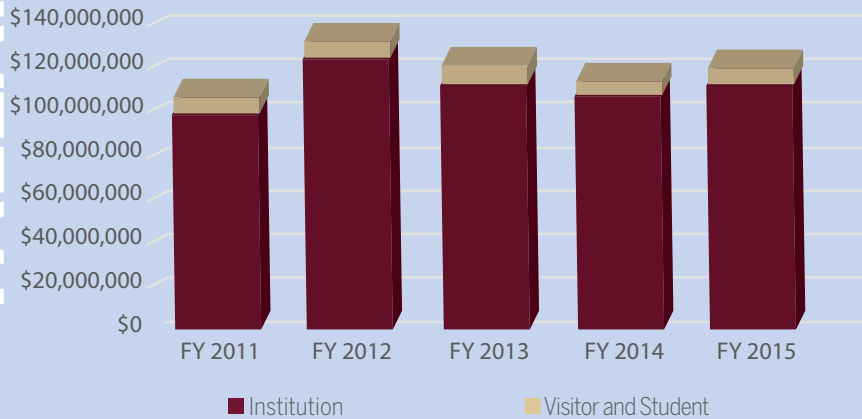
The trend in explicit impact in the Tallahassee market is depicted in **Exhibit 3-5**. The values include both expenditures and activities associated with the main campus as well as the regional campus. Cumulative expenditures have amounted

to over \$343 million over the past five years of operation, correlating with economic impact as high as \$133 million annually, and summing to almost \$597 million over the entirety of the period.

Exhibit 3-5

Florida State College of Medicine - Main Campus & Tallahassee Regional Campus Trend in Local Economic Impact, FY2010-11 through 2014-15, 2015 Constant Dollars

| Tallahassee and Main Campus | | | | |
|-----------------------------|----------------------|------------------|---------------------|----------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$99,721,712 | \$137,172 | \$7,489,364 | \$107,348,248 |
| FY 2012 | \$125,190,124 | \$140,231 | \$7,697,939 | \$133,028,294 |
| FY 2013 | \$113,324,587 | \$130,789 | \$7,612,766 | \$121,068,143 |
| FY 2014 | \$107,463,469 | \$117,548 | \$6,992,626 | \$114,573,643 |
| FY 2015 | \$112,955,242 | \$120,456 | \$7,450,510 | \$120,526,208 |
| GRAND TOTAL | \$558,655,134 | \$646,196 | \$37,243,206 | \$596,544,536 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

For the Orlando campus, annual expenditure levels have maintained a volume between \$3.5 million and \$3.7 million from 2010-11 through 2014-15, translating to an impact ranging between

about \$6 million and \$7 million. The cumulative impact to the area over the five-year period amounts to almost \$32 million. A summary of the impact is presented in **Exhibit 3-6**.

Exhibit 3-6

**Florida State College of Medicine -
Orlando Regional Campus Trend in Local Economic Impact,
FY2010-11 through 2014-15, 2015 Constant Dollars**

| Orlando Campus | | | | |
|--------------------|---------------------|------------------|--------------------|---------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$4,793,214 | \$20,649 | \$1,366,760 | \$6,180,623 |
| FY 2012 | \$5,417,285 | \$22,076 | \$1,454,282 | \$6,893,644 |
| FY 2013 | \$5,111,183 | \$20,553 | \$1,445,138 | \$6,576,874 |
| FY 2014 | \$4,520,693 | \$19,362 | \$1,369,444 | \$5,909,499 |
| FY 2015 | \$4,471,416 | \$19,573 | \$1,472,051 | \$5,963,040 |
| GRAND TOTAL | \$24,313,791 | \$102,214 | \$7,107,675 | \$31,523,680 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

ORLANDO

Expenditures affiliated with the Pensacola campus and its affiliates have ranged from \$11.4 million to \$13.6 million over the 2011-15 period. These spending levels equate to annual impacts ranging from \$20.6 million to \$22.5 million in this

particular market (**Exhibit 3-7**). The cumulative total investment in the region has amounted to about \$62 million in expenditures, which equates to an economic impact of over \$108 million.

Exhibit 3-7

**Florida State College of Medicine -
Pensacola Regional Campus Trend in Local Economic Impact,
FY2010-11 through 2014-15, 2015 Constant Dollars**

| Pensacola Campus | | | | |
|--------------------|----------------------|-----------------|--------------------|----------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$20,048,508 | \$19,359 | \$1,281,736 | \$21,349,604 |
| FY 2012 | \$20,055,214 | \$19,509 | \$1,308,395 | \$21,383,119 |
| FY 2013 | \$20,533,720 | \$18,387 | \$1,310,974 | \$21,863,081 |
| FY 2014 | \$21,233,016 | \$17,674 | \$1,264,129 | \$22,514,819 |
| FY 2015 | \$19,255,371 | \$17,282 | \$1,321,941 | \$20,594,594 |
| GRAND TOTAL | \$101,125,829 | \$92,212 | \$6,487,175 | \$107,705,216 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

As depicted in **Exhibit 3-8**, the annual impact in the Sarasota community has ranged from \$4.9 million to \$5.4 million between 2010-11 and 2014-15.

Cumulatively, over \$16.5 million has been invested in this community, resulting in an impact of \$26 million.

Exhibit 3-8
**Florida State College of Medicine -
 Sarasota Regional Campus Trend in Local Economic Impact,
 FY2010-11 through 2014-15, 2015 Constant Dollars**

| Sarasota Campus | | | | |
|--------------------|---------------------|-----------------|--------------------|---------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$4,006,489 | \$19,879 | \$1,314,853 | \$5,341,222 |
| FY 2012 | \$4,044,691 | \$19,798 | \$1,288,541 | \$5,353,030 |
| FY 2013 | \$4,008,259 | \$19,268 | \$1,338,808 | \$5,366,335 |
| FY 2014 | \$3,754,864 | \$18,193 | \$1,275,667 | \$5,048,724 |
| FY 2015 | \$3,600,567 | \$17,645 | \$1,329,849 | \$4,948,060 |
| GRAND TOTAL | \$19,414,871 | \$94,782 | \$6,547,718 | \$26,057,371 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

Expenditures in Daytona Beach ranged between \$3.2 million and \$3.3 million over the past five years, translating to \$4.5 million to \$5.4 million in economic

impact annually (**Exhibit 3-9**). The cumulative effect has been an increase in local economic output of almost \$25 million over this time.

Exhibit 3-9

**Florida State College of Medicine -
Daytona Beach Regional Campus Trend in Local Economic Impact,
FY2010-11 through 2014-15, 2015 Constant Dollars**

| Daytona Campus | | | | |
|--------------------|---------------------|-----------------|--------------------|---------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$4,006,050 | \$20,123 | \$1,333,396 | \$5,359,569 |
| FY 2012 | \$3,930,034 | \$19,410 | \$1,283,959 | \$5,233,404 |
| FY 2013 | \$3,602,847 | \$17,904 | \$1,254,867 | \$4,875,618 |
| FY 2014 | \$3,491,901 | \$17,108 | \$1,212,857 | \$4,721,867 |
| FY 2015 | \$3,212,153 | \$16,769 | \$1,259,996 | \$4,488,918 |
| GRAND TOTAL | \$18,242,985 | \$91,315 | \$6,345,076 | \$24,679,376 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

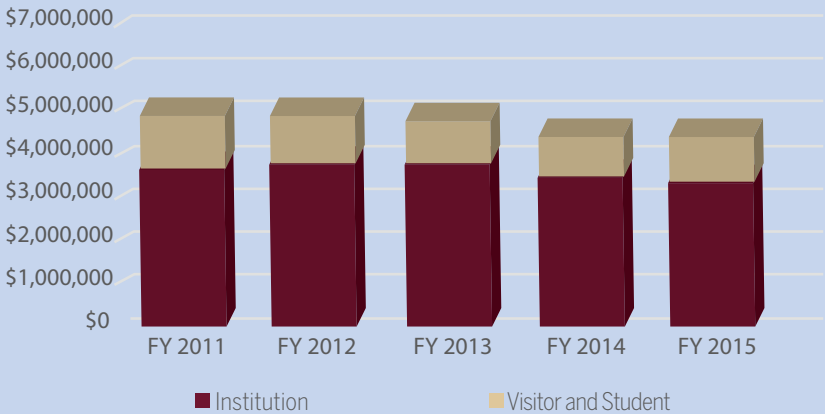
Similar to Daytona Beach, the Fort Pierce campus has seen annual expenditures ranging between \$3.1 million and \$3.2

million. The cumulative impact in this area has totaled just under \$24 million over five years, as shown in **Exhibit 3-10**.

Exhibit 3-10

**Florida State College of Medicine -
Fort Pierce Regional Campus Trend in Local Economic Impact,
FY2010-11 through 2014-15, 2015 Constant Dollars**

| Fort Pierce Campus | | | | |
|--------------------|---------------------|-----------------|--------------------|---------------------|
| | Institution | Visitor | Student | Total |
| FY 2011 | \$3,704,313 | \$19,283 | \$1,280,902 | \$5,004,498 |
| FY 2012 | \$3,766,650 | \$18,639 | \$1,260,018 | \$5,045,307 |
| FY 2013 | \$3,566,377 | \$17,929 | \$1,278,273 | \$4,862,579 |
| FY 2014 | \$3,319,423 | \$17,099 | \$1,222,934 | \$4,559,457 |
| FY 2015 | \$3,191,181 | \$16,945 | \$1,294,959 | \$4,503,085 |
| GRAND TOTAL | \$17,547,944 | \$89,896 | \$6,337,085 | \$23,974,925 |



Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

Operations in Immokalee resulted in an estimated \$8.5 million in expenditures in the area, trending from about \$1 million in 2010-11 to over \$2.5 million by 2014-15. This resulted in an estimated cumulative economic impact of about \$15.5 million in that service region over the five-year period of analysis.

A summary of individual campuses' impacts for the most recent year (2014-15) and their cumulative total impacts is depicted in **Exhibit 3-11**. As shown, operations in the Tallahassee area exceed

\$120 million in their estimated annual impact, while regional campus activities in other locales drive between \$4 million and \$20 million of economic activity in their respective markets. Cumulatively, output has totaled nearly \$600 million in the Tallahassee market while accounting for between \$15 million and just over \$108 million of activity in regional campus markets.

Exhibit 3-11

Total Expenditures & Statewide Economic Impact of the Florida State University College of Medicine, 2015 Constant Dollars

SUMMARY

| | 2014-15 Activity | | Five-Year Cummulative | |
|-----------------------------|----------------------|----------------------|-----------------------|----------------------|
| | Expenditures | Impact | Expenditures | Impact |
| Daytona Beach | \$3,293,405 | \$4,488,918 | \$16,483,008 | \$24,679,376 |
| Fort Pierce | \$3,241,405 | \$4,503,085 | \$15,907,699 | \$23,974,925 |
| Immokalee | \$2,532,331 | \$4,465,779 | \$8,484,135 | \$15,541,011 |
| Main Campus and Tallahassee | \$74,116,648 | \$120,526,208 | \$343,396,515 | \$596,544,536 |
| Orlando | \$3,659,909 | \$5,963,040 | \$18,213,009 | \$31,523,680 |
| Pensacola | \$12,446,764 | \$20,594,594 | \$61,731,862 | \$107,705,216 |
| Sarasota | \$3,408,486 | \$4,948,060 | \$16,525,323 | \$26,057,371 |
| Total | \$102,698,948 | \$165,489,685 | \$480,741,551 | \$826,026,115 |

Source: Expenditure data provided by Florida State University College of Medicine. Impact analysis conducted collaboratively by MGT of America Inc. and the Florida State University Center for Economic Forecasting and Analysis (CEFA) using the IMPLAN integrated input-output model.

FUTURE ECONOMIC IMPACTS

Based on the most recent expenditures (over \$100 million) and estimates of statewide impact, the College of Medicine can be expected to contribute over \$160 million per year to the statewide economy, including \$120 million in the Tallahassee market and in excess of \$4 million in each of the regional campus markets. The activity totals over \$826 million over five years and nearly \$1 billion every six years. The figure could grow well beyond these levels, as research activity continues to expand. Research expenditures are of particular significance because the dollars typically do not represent state tax dollars that have been reinvested and successively multiply in the regions, but represent entirely new investments to the regions that also experience the multiplicative effect.

Additionally, as the College of Medicine's mission is fulfilled and its graduates begin to bolster Florida's physician workforce, substantial benefits could be experienced by the state and campus localities in terms of economic development. The additional contingent of highly skilled professionals working throughout the state increases personal income levels and allows for more dollars to be retained as patients are able to seek treatment locally rather than outside the region or state. Furthermore, the locales become more attractive options for health-care and related research businesses, as well as individuals and businesses from broader industries, based on quality-of-life enhancements resulting from the improved health-care infrastructures.





ADDITIONAL EDUCATIONAL & SOCIAL IMPACTS

As documented in the 2010 study, the Florida State University College of Medicine continues to focus on its workforce and social missions while making a significant economic impact across the state. Simultaneously, it has had positive educational and social impacts on its students, the medical communities in which it operates, the patients it has served and the university itself.



OVERVIEW

In addition to successfully implementing its statutory mission over the past 15 years of operation, the College of Medicine continues to have positive impacts for a variety of key stakeholders. In this section, we report our findings on the ways in which the college benefits:

- Its students as they prepare for advanced training and entry into medical practice.
- The community-based clinical faculty members who continue to maintain active practices.

- The six host communities where campuses are located.
- Other programs and strategic initiatives of Florida State University.
- State and national policies and practices for medical education.

Our findings are based on interviews with numerous College of Medicine students, faculty and community stakeholders; surveys sponsored by the Association of American Medical Colleges (AAMC); and analyses of various internal statistical reports prepared by FSU departments.

“ [During my interviews] the physicians were the kind that I wanted to be. Everyone that I met could be a mentor to me, somebody that I could look up to and say, 'I want to be a physician like him or like her.' And the collegiality of the place – all the students that I met really seemed to enjoy being here. ”

– **Ricardo Sequeira** (M.D., '12)



IMPACTS ON STUDENTS

During the most recent five-year period, the College of Medicine has sustained its full enrollment capacity as originally planned. Consequently, its intended impact on the size and composition of the state's physician workforce continues to grow as each graduating class moves closer to entering medical practice. Just as important, the college is providing an educational program that often surpasses the experience at many other medical schools. Its students and graduates report high levels of student satisfaction, perform on national exams at better-than-expected levels, and exhibit strong performance in well-respected residency programs.

Over the recent five-year period, the College of Medicine has maintained a student satisfaction level that rivals other allopathic medical schools across the nation, and in some cases exceeds it. Data from the AAMC Graduation Questionnaire for the Class of 2015 reveal that the average response from College of Medicine graduates was at or above the national average on the majority of key survey items relating to basic science instruction, clinical clerkships and professional skills development.

- The mean response for graduating College of Medicine students was slightly above the national average for questionnaire items that addressed satisfaction with the content and structure of basic science courses and their value in preparing for clerkship training.
- For most of the items related to clerkship experiences, graduating College of Medicine students were as satisfied as, or more satisfied than, the national cohort.

On a single capstone question concerning satisfaction with the overall quality of the medical school experience, the mean College of Medicine response was equivalent to the national average. A summary of our analysis of Graduation Questionnaire results is shown in **Exhibit 4-1**.



Exhibit 4-1

Educational Experiences of FSU COM Graduates Compared with National Average of All Medical Graduates - Class of 2015

| Satisfaction Measure | Number of Items | FSU Above Avg. | FSU Below Avg. | Units of Measurement | Questionnaire Response (mean avg.) | | |
|--------------------------------------|-----------------|----------------|----------------|----------------------|------------------------------------|---------------------|----------------------|
| | | | | | FSU Alumni | All National Alumni | FSU as % of National |
| Basic science instruction | | | | | | | |
| Content | 2 | 1 | 0 | 5-Point Scale | 4.0 | 3.9 | 101% |
| Preparation for clerkships | 14 | 6 | 7 | 4-Point Scale | 3.2 | 3.2 | 101% |
| Subtotal, Basic science | 16 | 7 | 7 | | 3.3 | 3.3 | 101% |
| Clerkships | | | | | | | |
| Quality of experience in clerkships* | 7 | 3 | 2 | 4-Point Scale | 3.3 | 3.3 | 100% |
| Family Medicine clerkship | 2 | 1 | 1 | 5-Point Scale | 4.2 | 4.3 | 99% |
| Internal Medicine clerkship | 2 | 1 | 1 | 5-Point Scale | 4.1 | 4.1 | 99% |
| Obstetrics & Gynecology clerkship | 2 | 2 | 0 | 5-Point Scale | 4.5 | 4.0 | 111% |
| Pediatrics clerkship | 2 | 0 | 2 | 5-Point Scale | 4.1 | 4.4 | 95% |
| Psychiatry clerkship | 2 | 0 | 1 | 5-Point Scale | 4.2 | 4.2 | 99% |
| Surgery clerkship | 2 | 1 | 1 | 5-Point Scale | 4.2 | 4.0 | 103% |
| Subtotal, Clerkships | 19 | 8 | 8 | | 4.1 | 4.0 | 101% |
| Overall quality of medical education | | | | | | | |
| | 1 | 0 | 0 | 5-Point Scale | 4.3 | 4.3 | 100% |
| | 36 | 15 | 15 | | | | |

Source: AAMC Graduation Questionnaire.

Geriatrics is not offered as a stand-alone clerkship in most medical schools, and consequently the AAMC Questionnaire does not query students' satisfaction with the geriatrics clerkship. However, geriatrics is one of the hallmarks of the FSU College of Medicine's mission, and the college is interested in students' assessment of the clerkship. From 2010 to 2013, the AAMC GQ asked students whether they believed their instruction in the care of geriatrics patients was adequate, appropriate or excessive. In 2013, 15.3 percent of students nationally rated the experience as inadequate, compared with 0 percent of FSU College of Medicine students.

Evidence of the strong performance of the College of Medicine's instructional program also can be found in the performance of its students on the U.S. Medical Licensing Examination (USMLE). The USMLE is composed of four different assessments conducted at various points in a student's educational program:

- **Step 1** assesses student knowledge of the basic sciences and ability to apply key concepts to the practice of medicine. The Step 1 exam occurs at the end of the second year of the medical school program.
- **Step 2 CK** assesses a student's clinical knowledge early in the fourth year of medical school. This assessment classifies test items along two dimensions: disease category and physician task.
- **Step 2 CS**, which also occurs early in the fourth year, assesses clinical skills through observation of student interactions with simulated patients.
- **Step 3**, at the end of the first year of residency, assesses the application of medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings.

Since the Step 3 assessment does not occur until the medical student is in residency training, its relevance to the performance of the College of Medicine's instructional program is limited.

The mean Step 1 score for College of Medicine students in the Class of 2016 was 223, compared with the national average of 229. The College of Medicine performance is well above the 188 score necessary to "pass" the exam. College of Medicine students had a 93-percent pass rate on first attempt, which matches the national average. All College of Medicine students attained a passing score on a retake of the exam.



A 223 mean score may appear to reflect only average outcomes for the program. However, the College of Medicine results were higher than predicted based on national norms for entering students. Because of its efforts to admit students most likely to serve in rural and underserved areas, the College of Medicine accepts students with lower-than-average Medical College Application Test (MCAT) scores. Based on the well-documented strong positive correlation between MCAT scores and USMLE test scores, the predicted response for College of Medicine test-takers was lower. That is, the training received during the first two years of the College of Medicine's curriculum has enabled its students to perform significantly better than expected on Step 1.

The value added by the college's curriculum is even more apparent in Step 2 CK results. The Class of 2014 had a mean score of 241, just above the national average of 239. Considering the performance of these same College of Medicine students on the MCAT exam several years earlier, their performance significantly exceeds what would be expected on Step 2 (clinical knowledge). Nearly all test-takers (98.5 percent) from the College of Medicine's classes of 2005-2016 passed Step 2 CK on the first attempt, while 95 percent of all test-takers in the U.S. and Canada passed the test on the first attempt. As seen in **Exhibit 4-2**, this pattern of significantly higher-than-predicted performance for College of Medicine students on Step 2 CK has prevailed throughout its history.

Exhibit 4-2

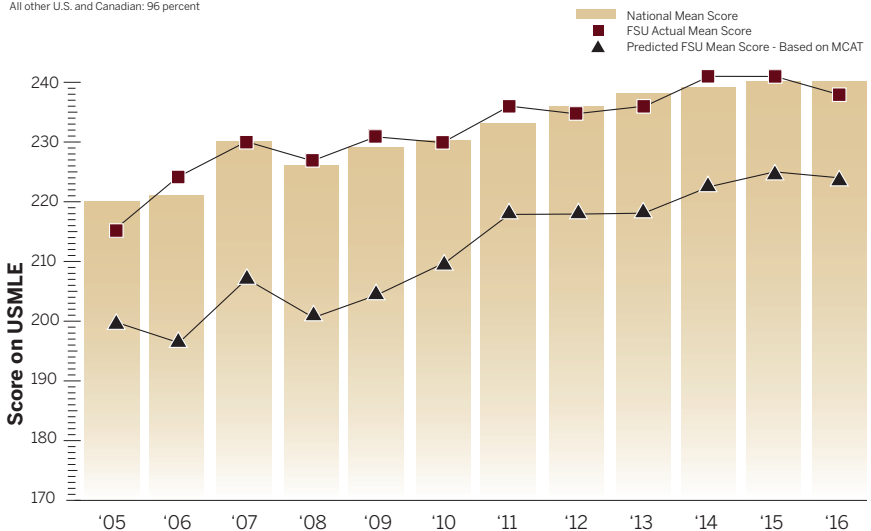
Trends in Step 2 CK Scores for FSU College of Medicine Graduates Scores Compared with National Averages

USMLE Step 2 Clinical Knowledge - Given early in the fourth year of medical school

Pass rate

FSU (average, classes of 2005-16): 98 percent

All other U.S. and Canadian: 96 percent





“ We receive a number of students from Florida State into our residency program in emergency medicine. The students are really bright and sharp. We take students from around the country, and a number of the Florida State students have been chief residents. Whatever is occurring with the training and learning, it’s absolutely superb. ”

– **Beranton Whisenant**
(PIMS, '75), UF College of
Medicine-Shands Hospital in
Jacksonville

The Step 2 CS assessment results are reported using a “pass-fail” designation and not a numeric score, so fewer comparisons are possible between the performance of the College of Medicine and all medical schools nationally. In the years of USMLE testing at the college, 98 percent of students passed Step 2 CS on first attempt, compared with 97 percent of all U.S. and Canadian students and 83 percent of international students.

The 2010 report of the College of Medicine’s socioeconomic impact closed with a brief discussion of challenges and opportunities. One of these opportunities was the development of additional graduate medical education (GME or residency) programs. Students and community leaders from the regional campus locations had expressed strong interest in and support for increased GME programming to enable graduates

to stay in-state for residency training and to address physician workforce needs in the communities. Further, the council of deans of Florida medical schools had called attention to the lack of in-state residency slots sufficient to handle all the graduates of the new and expanded M.D. programs.

The College of Medicine has actively pursued development of GME programs over the past five years. A new associate dean for graduate medical education was recruited in 2012 to lead this initiative. As seen in **Exhibit 4-3**, the college is currently the “sponsoring institution” for six residency programs and one fellowship program, compared with only two programs in 2010. Further, it is an “affiliated medical school” for one additional residency program. Overall, the residency programs now accept 38 program year 1 (PY-1) trainees annually.

Residency & Fellowship Programs Sponsored by or Affiliated with Florida State University College of Medicine 2015-16 Academic Year

| Sponsored Programs | | | | | | | | | | |
|---|-------------|---------------------------------------|-----------------------|----------------------|------|------|------|------|---------|-------|
| Program | City | Affiliated Clinical Site | Initial ACGME | Accredited Positions | | | | | | |
| | | | Accreditation Date | PY-1 | PY-2 | PY-3 | PY-4 | PY-5 | Fellows | Total |
| Dermatology | Tallahassee | Dermatology Associates of Tallahassee | 2015 | | 2 | 2 | 2 | | | 6 |
| Family Medicine | Fort Myers | Lee Memorial Health System | 2013 | 6 | 6 | 6 | | | | 18 |
| General Surgery | Tallahassee | Tallahassee Memorial HealthCare | 2015 | 4 | 2 | 2 | 2 | 2 | | 12 |
| Internal Medicine | Tallahassee | Tallahassee Memorial HealthCare | 2012 | 12 | 12 | 12 | | | | 36 |
| Obstetrics & Gynecology | Pensacola | Sacred Heart Health System* | | 4 | 4 | 4 | 4 | | | 16 |
| Pediatrics | Pensacola | Sacred Heart Health System* | | 9 | 9 | 9 | | | | 27 |
| Micrographic Surgery & Dermatologic Oncology Fellowship | Tallahassee | Dermatology Associates of Tallahassee | 2013 | | | | | | 2 | 2 |

*Sponsorship transferred back to the University of Florida in January 2016.

| Programs Under Development | | | | | | | | | | |
|----------------------------|----------|----------------------------|--------|---------------------|------|------|------|------|---------|-------|
| Program | City | Partnering Institution | Target | Requested Positions | | | | | | |
| | | | Year | PY-1 | PY-2 | PY-3 | PY-4 | PY-5 | Fellows | Total |
| Internal Medicine | Sarasota | Sarasota Memorial Hospital | 2017 | 13 | 13 | 13 | | | | 39 |

Source: FSU COM.



The College of Medicine and many of its partnering medical centers are in ongoing discussions about development of additional slots in current programs, along with the creation of new residency and fellowship programs.

The high quality of the College of Medicine's instructional program has become widely recognized by the GME community over the past few years. Directors of residency programs not only observe the strong USMLE scores attained by applicants from the College of Medicine but also openly express their satisfaction with the strong on-the-job performance of College of Medicine graduates in their residency programs. As a result, residency program directors now actively recruit College of Medicine students for their programs. Regional campus deans were quick to point out that their graduates are being admitted

to residency programs all across the country in some of the most prestigious clinical settings. One commented:

“Once a residency director has had an FSU COM graduate come through their program, they call us asking for more to apply.”

Two metrics demonstrate the College of Medicine's success in preparing its students for GME: the ability of students to match with programs of their choice and their performance in their residency program. On the residency program Match Day in March 2015, 113 of 115 College of Medicine students matched. This 98.3-percent overall match rate compares with the national rate of 93.9 percent.

Not only are College of Medicine students successful in gaining entry to desired GME programs, they exhibit superior performance while serving in their residency. Among all 567 graduates through the Class of 2012 (the last class in which the majority of its members have completed residency training), 21 percent have served in a leadership role as “chief resident.” A chief resident is generally considered to be the strongest performer in his or her cohort.

During interviews with numerous students who were completing their third year of the program at the six regional campuses, MGT found further evidence of student satisfaction with their experiences at the College of Medicine. Throughout the remainder of this report, paraphrased statements drawn from interview notes are indicated by italics. Though they are not verbatim responses, they faithfully reflect the intent of the speakers.



Students commented favorably on the overall design of the curriculum and the distributed, community-based regional campus model. They reported:



Patient contact during the first and second year gives us a distinct advantage when beginning the third-year clerkship rotations.

Not only do we gain clinical knowledge in one-on-one interaction with preceptors, but we see what life as a physician is really like and learn the “business” of medicine.

The small class size at each regional campus encourages collaboration.

The College of Medicine model gives us a “real world” look at a medical practice.

Administrators, staff and faculty at the regional campus know our names and genuinely care about us and how we are doing.

The smaller regional campus community model is team-oriented and provides a collaborative approach to medical education fostering student success.

The community learning environment helps us prepare to function in a team-based health-care delivery environment.

Many of us are pleasantly surprised as third-year students to find a high-quality program, yet a far less competitive atmosphere than expected.

The College of Medicine model fosters a sense of community instead of competition without sacrificing quality.

Our time at the regional campus creates strong bonds between students and staff/faculty.

The smaller student cohort at each campus allows for a more collaborative and supportive atmosphere from local faculty and staff.

The third year provides considerable one-on-one interaction with preceptors as well as extensive patient contact.

Many of us are able to complete the third year in a Florida location closer to family and friends.





Students shared their experiences during their third-year clerkships and the ways these experiences contributed to their professional development:

“As third-year students, we are far more prepared early on than our peers at other medical schools.

We experience more “hands-on” participation, more responsibilities, more patient interactions, more participation in medical procedures and more input in patient treatment plans.

At FSU, we learn early on how to effectively communicate with patients, attending physicians and the medical team. It gives us a distinct advantage among peers from other schools.

As new third-year students, we are more comfortable with both patients and doctors.

Patients are very accepting of us as medical students, often asking where we are when the doctor sees them alone.

As students, we recognize that the early transition to extensive involvement in patient care is an unexpected advantage of the College of Medicine model.

The community-based model offers students a close-up view of the back office demands of a medical practice, something we would not see in a traditional teaching hospital setting.

The training sites in Marianna and Immokalee give us a view of health-care needs and delivery that we would not have encountered elsewhere.

We experience more outpatient care opportunities, where much of medical care actually happens.

The rural experience makes me appreciate the role of family medicine. It’s not all about the money.

I have had more hands-on experiences than my friends at other medical schools.

The Immokalee center experience provides students an understanding of where medicine truly meets critical community health-care needs.”



By the time they transition from third to fourth year of the program, College of Medicine students become more aware of the superior preparation they have received to date:



Working closely with my preceptors and other medical providers has been a great learning experience. I feel like I am a valued part of a team.

I participated in an externship at the University of Colorado and found FSU College of Medicine students are far more advanced by third year than other programs.

I was much more comfortable engaging patients than other similar-year medical students during my Emory University externship experience.

During a summer internship with other medical students at the end of my third year, while prepping for a routine procedure I had done numerous times in the past year, no one else had done more than one, and several peers had yet to do so.

As fourth-year students, we appreciate the direct access and ability to work one-on-one with faculty. We realize many of our counterparts at other schools spend much of the time in the “back of the line” behind first- and second-year residents.

FSU medical students are very impressive (noted an FSU postdoctoral fellow who previously interned at the University of Texas Health Science Center in San Antonio).





Drawing on their own individual training and professional backgrounds, community faculty members also commented on the experiences that benefit the students training in their communities:

The FSU model really connects the student to direct patient care experience early on.

I also train other medical students, and FSU medical students are better prepared technically, more professional and have stronger patient skills.

Patients now ask me where the FSU medical student is if I don't have a clerkship rotation at that time. They love them.

When attending a medical school at a large teaching and research hospital setting, I saw the rarest and most complicated ailments and conditions. I never saw a strep throat until I entered practice. The College of Medicine model exposes students to where 90 percent of patient care takes place — in an ambulatory setting.

My College of Medicine students see patients that represent the vast majority of illnesses, conditions and ailments that a typical family practice or primary-care physician will see, unlike many who train in a large traditional teaching hospital.

The one-on-one mentoring model is a benefit to both the student and myself as a community faculty member.

I think it is good that students are exposed to the business side of a medical practice during their clerkships. They don't teach that in a traditional medical school.

The smaller regional campus community model is team-oriented and provides a collaborative approach to medical education that fosters student success.



Students seemed uniformly pleased with their experiences and the education they received. When asked whether they would recommend the College of Medicine to others, they offered the following:



I would certainly recommend FSU, especially for the extensive clinical experiences I engaged in early on.

The collaborative atmosphere and small class size at the regional campuses provide a great learning experience. The one-on-one mentoring and the support of the regional dean, faculty and staff makes all the difference in the world. I highly recommend it.

We received helpful information and insightful advice from alumni when exploring residency programs in a specific specialty or location. The connection to the regional campus staff and past graduates is a difference maker.

The small class size at the regional campus really helps us gain valuable clinical experience and provides a great support system.



IMPACTS ON COMMUNITY-BASED FACULTY

In the College of Medicine educational model, instruction at the regional campus is supported by a dedicated cadre of local practicing physicians who serve as clinical faculty members. Upon expressing an interest in becoming part of the faculty, each physician goes through a careful screening process and must be found compatible with the instructional model before receiving a faculty appointment. Regardless of their standing in the local medical community, clinical faculty — to a person — report they feel the quality of patient care they've provided in their practices since their affiliation with the College of Medicine has been enhanced. The clinical faculty members are proud to serve the program. Local faculty retention is a strong point of the College of Medicine model, despite continuous interest from other physicians in joining their ranks.

During interviews with clerkship directors and community faculty members at each of the six regional campuses, these physicians expressed their enthusiasm and support for the program. Many shared insightful observations about its impact on them, their practices and their communities. Members of the regional clinical faculty feel strongly that the College of Medicine continues to have a significant impact on the quality of health care that they and their colleagues provide. Numerous comments were offered regarding the college's impact on quality of patient care and the positive impact on their practices.





My Sarasota campus experience as a community faculty member has been challenging, invigorating and enjoyable.

As a College of Medicine faculty member, I feel the experience has strengthened my knowledge of the latest advances in my practice specialty, which in turn enhances my ability to better serve my patients.

Faculty members must stay “on top of their game” to provide the level of instruction and training required for the students. That only has positive impacts on my ability to treat my patients.

The College of Medicine has positively impacted the quality of care at Halifax Health, as physicians feel the need to perform at a higher level and provide a high level of professionalism as role models to students.

Not only does being a College of Medicine faculty member contribute to the quality of care I provide, but it has a positive influence on my practice colleagues as well.

An added benefit of being on the College of Medicine faculty for many is access to the extensive medical library.

Having a medical student participating in my practice is time-consuming, but the added patient contact and attention they are able to provide makes a difference to my patients.

A local physician noted that working with College of Medicine students is a “high point” of his practice.

Students keep the faculty and staff on their toes, which benefits everyone around us.

Access to the medical library is an added bonus.

Other doctors in my practice and the community are interested in joining the faculty ranks.

Here has definitely been an increased interest in medical education locally since the regional campus was established.

In the Daytona Beach area, we feel the College of Medicine’s presence has been a positive factor in attracting new physicians to practice here.

Across other College of Medicine regions, clerkship directors noted that they frequently encounter new physicians who are candidates for a practice or hospital position that inquire about the opportunity to serve as a faculty member.

Local faculty and their colleagues are becoming more aware of and interested in research being conducted by the College of Medicine.

Local faculty are appreciative of the College of Medicine’s consideration for their time and workload so as not to detract from their patient care responsibilities.

The College of Medicine is now well known and very connected to our local medical community.

here is no longer any doubt among the local medical community about the medical school’s community-based model. The faculty participation and the demonstrated student strengths are all the evidence needed.

New and planned affiliated residency programs in Fort Myers and Sarasota have created a new excitement about the College of Medicine among those local medical communities.

The regional deans are well respected locally, and cited as a difference maker in the college’s relationship with local physicians and clinical education providers.

The College of Medicine has proven the distributive model works and produces better outcomes.



All members of the community faculty that we met expressed strong support for the College of Medicine, but their commitment to the program can be further documented by the high levels of faculty retention at the regional campuses. Some medical schools suffer from lack of continuity in their community-based educational experiences because of high levels of faculty turnover. For the FSU College of Medicine’s regional

campuses, however, members of the community faculty seem to value their roles as mentors for the next generation of physicians. As seen in **Exhibit 4-4**, of the nearly 2,500 community physicians who have been appointed to the faculty since 2002, 84 percent have retained their affiliation. A majority of those who left the faculty indicated their reason was either retirement or relocation.

Exhibit 4-4

**Trends in Faculty Retention
FSU College of Medicine Regional Campuses**

| Campus | Appointment History | Calendar Year | | | | | | | | | | |
|---------------|--------------------------|---------------|------|------|------|------|------|------|------|------|------|-------|
| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
| Daytona Beach | Number Appointed by Year | | | | | | 57 | 63 | 59 | 53 | 32 | 264 |
| | Number Still Affiliated | | | | | | 53 | 59 | 53 | 51 | 28 | 244 |
| | Percent Retained | | | | | | 93% | 94% | 90% | 96% | 88% | 92% |
| Fort Pierce | Number Appointed by Year | | | | | | 69 | 114 | 47 | 37 | 23 | 290 |
| | Number Still Affiliated | | | | | | 49 | 97 | 38 | 32 | 22 | 238 |
| | Percent Retained | | | | | | 71% | 85% | 81% | 86% | 96% | 82% |
| Orlando | Number Appointed by Year | 5 | 154 | 83 | 24 | 28 | 56 | 40 | 82 | 53 | 94 | 619 |
| | Number Still Affiliated | 4 | 121 | 60 | 16 | 21 | 47 | 36 | 65 | 51 | 93 | 514 |
| | Percent Retained | 80% | 79% | 72% | 67% | 75% | 84% | 90% | 79% | 96% | 99% | 83% |
| Pensacola | Number Appointed by Year | 9 | 83 | 59 | 33 | 44 | 22 | 35 | 36 | 31 | 23 | 375 |
| | Number Still Affiliated | 9 | 61 | 42 | 27 | 32 | 16 | 27 | 34 | 28 | 21 | 297 |
| | Percent Retained | 100% | 73% | 71% | 82% | 73% | 73% | 77% | 94% | 90% | 91% | 79% |
| Sarasota | Number Appointed by Year | | | | 75 | 91 | 51 | 54 | 37 | 39 | 31 | 378 |
| | Number Still Affiliated | | | | 60 | 77 | 43 | 41 | 35 | 39 | 30 | 325 |
| | Percent Retained | | | | 80% | 85% | 84% | 76% | 95% | 100% | 97% | 86% |
| Tallahassee | Number Appointed by Year | 7 | 64 | 72 | 56 | 75 | 108 | 61 | 28 | 57 | 41 | 569 |
| | Number Still Affiliated | 6 | 55 | 56 | 44 | 65 | 92 | 54 | 28 | 47 | 41 | 488 |
| | Percent Retained | 86% | 86% | 78% | 79% | 87% | 85% | 89% | 100% | 82% | 100% | 86% |
| All Campuses | Number Appointed by Year | 21 | 301 | 214 | 188 | 238 | 363 | 367 | 289 | 270 | 244 | 2,495 |
| | Number Still Affiliated | 19 | 237 | 158 | 147 | 195 | 300 | 314 | 253 | 248 | 235 | 2,106 |
| | Percent Retained | 90% | 79% | 74% | 78% | 82% | 83% | 86% | 88% | 92% | 96% | 84% |

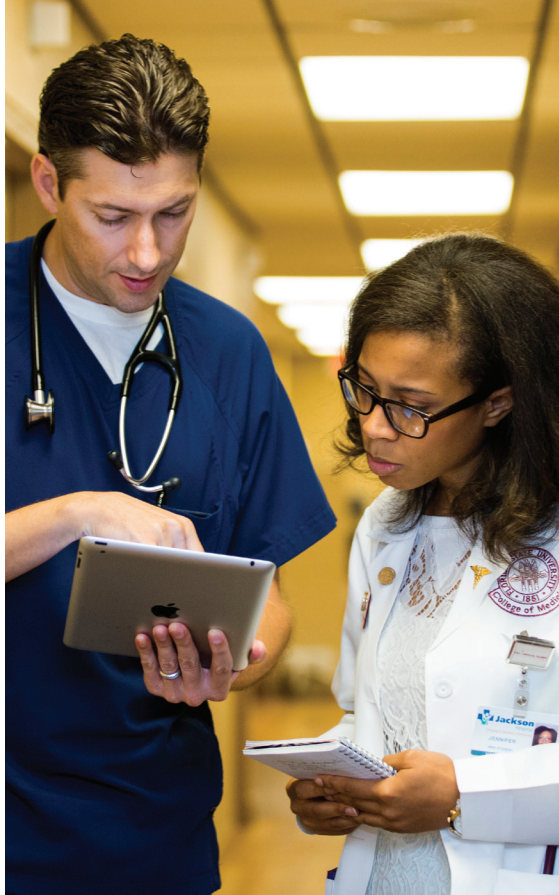
Source: FSU COM.

IMPACTS ON HOST COMMUNITIES

The FSU College of Medicine partners with 108 hospitals and health-care-related organizations in the six communities where the regional medical campuses are located. The MGT team met with hospital administrators and community leaders in all six locations, and it is clear that the College of Medicine is having a positive impact on the quality of local medical care. Additionally, these communities value the college's presence for its economic and social impact.

During site visits, the MGT team had the opportunity to interview members of the community board in each location. The members included executives of hospitals and other health-care organizations, leaders of physician groups, government and education officials, and local business leaders. They expressed enthusiasm and appreciation for the College of Medicine's presence as well as for its distributed model of medical education related to:

- Serving as a valued community asset.
- Helping to grow the local physician workforce.
- Enhancing the quality of care.
- Establishing a base for development of graduate medical education (GME) programs with local partners.
- Maintaining a collaborative relationship with community partners.





Community board members were uniformly proud that their community continues to serve as a clinical training site and a key partner with the College of Medicine. While some of the sentiment was understandable community pride (“We have a medical school located here”), the impact also included tangible economic benefits. The board members observed:

- The regional medical campus is a tremendous asset for our community and helps to attract new physicians to the area (Daytona Beach).
- The College of Medicine has been a significant partner in our community’s efforts to expand health professions education in order to bolster the regional workforce needs (Pensacola).
- The success of the medical school and its model has been a tremendous asset for FSU and the Tallahassee community (Tallahassee).
- College of Medicine students along with faculty are very involved and visible in community service efforts (Orlando).
- The College of Medicine’s presence on the Indian River State College campus is a great advantage to promote a full range of health-care professions to our students (Fort Pierce).
- The College of Medicine is another positive when it comes to regional economic development efforts (Fort Pierce).
- As the hospital looks for opportunities for growth and enhanced patient care, we will continue to include the College of Medicine in our plans (Tallahassee).
- The College of Medicine has been a great partner to work with in this community (Orlando).
- We consider our relationship with the College of Medicine to be a valuable asset to our hospital (Sarasota).
- The initiation of the new GME residency program with FSU is just the beginning of great things to come (Sarasota).
- The FSU rural training site and its partnership with Healthcare Network of Southwest Florida has had a tremendous impact on local access to health care (Immokalee).
- The College of Medicine family medicine residency program at Lee Memorial is off to a fantastic start (Fort Myers).

As originally intended, the presence of College of Medicine regional campuses has had an impact on the local physician workforce as noted during interviews with clinical faculty, community board members and hospital administrators.

- The College of Medicine has a higher percentage of graduates matching in primary care than other schools.
- There are nearly a dozen College of Medicine graduates who now practice medicine in the Pensacola area.
- A number of College of Medicine graduates not only practice in the area surrounding a regional campus but now serve as clinical faculty as well.
- Regional campus clerkships with College of Medicine students provide a “local audition” for hospital-based residency programs.
- College of Medicine students are a “known commodity” with a very favorable reputation.

- One hospital CEO acknowledged a significant number of College of Medicine graduates are selected as chief residents or serve in other GME leadership positions. They would certainly look to hire more College of Medicine alumni. At least five graduates are now practicing in the area around Daytona Beach.
- Approximately a dozen College of Medicine graduates are now practicing in the Sarasota-Bradenton region.
- A number of recent College of Medicine graduates have standing job offers to return to communities surrounding their regional campus after completing residency.
- Several partner hospitals indicate that the local College of Medicine presence is a positive recruiting tool.

One hospital CEO acknowledged a significant number of College of Medicine graduates are selected as chief residents or serve in other leadership positions in graduate medical education. They would certainly look to hire more College of Medicine alumni.



IMPACTS ON OTHER PROGRAMS AT FLORIDA STATE UNIVERSITY

In 15 years, the College of Medicine has become an integral part of Florida State University. While the state appropriation it receives is separate from the rest of the university, and it operates more independently than most colleges, the medical school has had a positive impact on the university in a variety of ways: improving the quality of the undergraduate student body, expanding the university's research reputation and advancing FSU's linkages across the state.

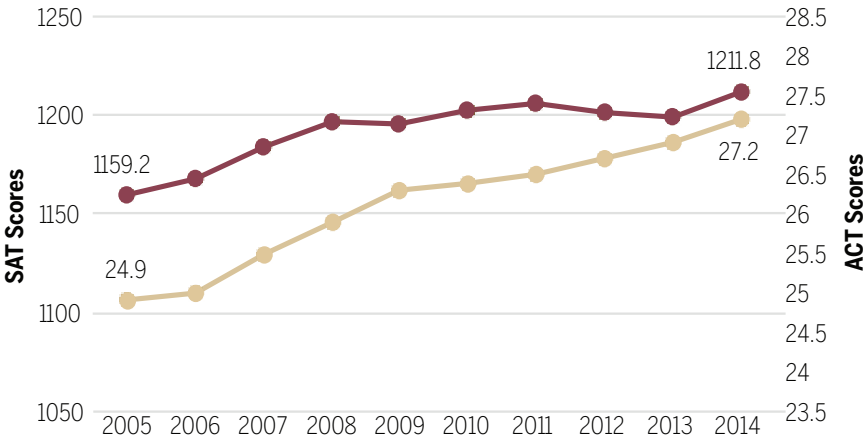
Prospective students have increasingly viewed FSU as their "university of choice" over the past several decades. The incoming freshman classes have displayed higher grade point averages in high school and stronger scores on college entrance exams for many years. While many factors may play a part in these improvements (e.g., growth in the state population, enrollment limitations, academic reputation of individual programs, and student life

offerings), it's clear that the presence of the FSU medical school has had a major impact.

Medical schools are recognized for having rigorous academic admission standards, and high school seniors interested in medical careers are already thinking about how to gain a competitive edge in the medical school application process when they select their undergraduate institution. One factor they consider is whether their potential undergraduate universities also offer medical education, in hopes that they can establish valuable contacts through faculty references and undergraduate research opportunities that will help in medical school admission. This factor can be seen in the quality of the FSU freshman class since the College of Medicine's establishment. As seen in **Exhibit 4-5**, ACT scores among the incoming class have risen more than 2 points in the 10 years since 2005.

Exhibit 4-5

Trends in Quality of Incoming Freshman Class- ACT & SAT Scores Florida State University, 2005-14



Source: FSU Office of Institutional Research.

At the same time that the quality of the incoming freshman class was increasing, the proportion of students declaring a major in programs generally considered to be pre-med increased slightly. As seen

in **Exhibit 4-6**, academic programs in the life and natural sciences attracted approximately 15 percent of freshman majors in 2008 and nearly 16 percent in 2014.

Exhibit 4-6

Trends in Selection of Student Majors Among Freshman Students at Florida State University

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | % Increase |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Biochemistry | 48 | 61 | 53 | 53 | 67 | 78 | 63 | 31.3 |
| Biological Sciences and Related | 627 | 789 | 744 | 789 | 716 | 774 | 814 | 29.8 |
| Chemistry and Related | 46 | 55 | 39 | 53 | 51 | 55 | 71 | 54.3 |
| Physics and Related | 29 | 38 | 32 | 24 | 19 | 25 | 29 | 0.0 |
| Subtotal, Premed-related Majors | 750 | 943 | 868 | 919 | 853 | 932 | 977 | 30.3 |
| % of Total | 14.8 | 15.7 | 14.5 | 14.8 | 14.8 | 15.1 | 15.9 | |
| All Other Majors | 4,317 | 5,071 | 5,112 | 5,279 | 4,930 | 5,233 | 5,168 | 19.7 |
| % of Total | 85.2 | 84.3 | 85.5 | 85.2 | 85.2 | 84.9 | 84.1 | |
| Total, All FTIC Students | 5,067 | 6,014 | 5,980 | 6,198 | 5,783 | 6,165 | 6,145 | 21.3 |

Source: FSU Office of Institutional Research.

Private giving is becoming much more important to the success of FSU and other state universities in Florida as state appropriations have dwindled and student tuition increases have encountered limits. Fundraising programs at FSU have new leadership, and the university is nearing the end of a successful \$1 billion capital campaign.

Because it is relatively new, the College of Medicine is still in the early stages of building an endowment that can sustain it. The dollar amounts from private giving for the college have fluctuated over the past five years, depending on timing of university-wide initiatives and unpredictability of

when major gifts are received. Strong performers over this period, however, have been the communities where regional medical campus programs are offered, in part due to the increased visibility of FSU there.

As seen in **Exhibit 4-7**, the College of Medicine has emerged as the second highest source of private giving among the institution's colleges and schools. While it trails the much larger and much older business school by a significant margin, the medical school has had greater levels of giving than Arts & Sciences, Engineering and Law.

Exhibit 4-7

**Trends in Private Gifts to Colleges and Other Units
FSU Foundation – Fiscal Years 2011-15**

| Unit | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | 5-Year Total |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Arts & Sciences | 4,163,074 | 4,079,313 | 3,214,085 | 3,395,647 | 3,932,652 | 18,784,771 |
| Business | 7,119,597 | 12,298,999 | 5,742,490 | 14,016,385 | 14,514,368 | 53,691,839 |
| Communication & Information | 296,557 | 454,781 | 504,430 | 1,308,972 | 614,346 | 3,179,086 |
| Criminology & Criminal Justice | 82,636 | 820,553 | 20,540,928 | 305,446 | 157,532 | 21,907,095 |
| Education | 1,142,811 | 940,717 | 3,168,179 | 3,636,943 | 2,641,619 | 11,530,269 |
| Engineering | 673,731 | 243,532 | 481,857 | 317,398 | 351,087 | 2,067,605 |
| Human Sciences | 2,929,912 | 1,401,151 | 590,215 | 306,408 | 1,182,520 | 6,410,206 |
| Law | 2,112,169 | 1,953,985 | 3,814,315 | 2,171,171 | 3,853,075 | 13,904,715 |
| Medicine | 3,962,957 | 5,062,872 | 6,498,144 | 4,357,616 | 2,798,666 | 22,680,255 |
| Motion Picture Arts | 1,686,508 | 149,921 | 3,286,906 | 201,218 | 50,280 | 5,374,833 |
| Music | 5,511,198 | 1,076,298 | 1,657,491 | 3,103,793 | 8,767,867 | 20,116,647 |
| Nursing | 477,040 | 531,056 | 874,020 | 483,588 | 472,541 | 2,838,245 |
| Social Sciences & Public Policy | 1,144,112 | 2,429,368 | 1,646,879 | 1,997,093 | 1,750,325 | 8,967,777 |
| Social Work | 221,872 | 194,972 | 511,266 | 206,191 | 782,926 | 1,917,227 |
| Visual Arts, Theatre & Dance | 1,384,649 | 5,299,338 | 997,590 | 2,609,991 | 7,033,219 | 17,324,787 |
| Subtotal, Colleges & Schools | 32,908,823 | 36,936,856 | 53,528,795 | 38,417,860 | 48,903,023 | 210,695,357 |
| All Other Units | 17,990,245 | 13,423,528 | 16,263,555 | 18,402,190 | 15,174,265 | 81,253,783 |
| Total University | 50,899,068 | 50,360,384 | 69,792,350 | 56,820,050 | 64,077,288 | 291,949,140 |
| Medicine as % of Total University | 7.8% | 10.1% | 9.3% | 7.7% | 4.4% | 7.8% |
| Rank Among Colleges & Schools | 4 | 3 | 2 | 2 | 6 | 2 |

Source: FSU Foundation, 2015.

Trends in Gifts to FSU Foundation by County Fiscal Years 2010-15

| Geographic Unit | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2010-15 Summary |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------------|
| State of Florida Total | 16,398,707 | 24,738,693 | 17,909,077 | 29,764,672 | 26,107,679 | 29,000,257 | 143,919,085 |
| Five Counties with Regional Medical Campus* | 5,406,568 | 1,313,740 | 4,574,628 | 5,804,360 | 6,252,199 | 4,834,600 | 28,186,094 |
| Percent of Total | 33.0% | 5.3% | 25.5% | 19.5% | 23.9% | 16.7% | 19.6% |
| Sixteen Counties with FSU COM Affiliations | 6,180,728 | 2,541,756 | 6,401,057 | 9,453,504 | 10,284,499 | 7,364,654 | 42,226,198 |
| Percent of Total | 37.7% | 10.3% | 35.7% | 31.8% | 39.4% | 25.4% | 29.3% |

*Excluding Leon County

Source: FSU Foundation, 2015.

During site visit interviews, MGT heard about continued interest generated in local communities by the presence of FSU through each regional medical campus, including observations such as:

- The regional campus has raised the visibility of FSU locally. It serves as another connection to local alumni and provides a positive perception of the university.
- The regional campus has raised the visibility of FSU in our region of the state.
- Local sponsored events and featured accomplishments associated with the College of Medicine's regional campus reflect positively on FSU as a whole, and engage support from community leaders.
- The regional campus is a source of pride and interest to local FSU alumni.
- The contributions of students, faculty and staff in volunteering time and services in our community add to the positive perceptions of the College of Medicine and the entire university.
- The medical community in each location is very enthusiastic and appreciative of FSU's presence. Thanks to FSU, they see an overall impact of improved delivery of medical care, and an overall community contribution by the university.
- The College of Medicine's presence locally has raised awareness of the university among the entire health-care provider community.
- Since the College of Medicine expanded locally, a considerable number of students from other FSU colleges and departments in Tallahassee



During site visit interviews, MGT heard about continued interest generated in local communities by the presence of FSU through each regional medical campus, including observations such as:



The regional campus has raised the visibility of FSU locally. It serves as another connection to local alumni and provides a positive perception of the university.

The regional campus has raised the visibility of FSU in our region of the state.

Local sponsored events and featured accomplishments associated with the College of Medicine's regional campus reflect positively on FSU as a whole, and engage support from community leaders.

The regional campus is a source of pride and interest to local FSU alumni.

The contributions of students, faculty and staff in volunteering time and services in our community add to the positive perceptions of the College of Medicine and the entire university.

The medical community in each location is very enthusiastic and appreciative of FSU's presence. Thanks to FSU, they see an overall impact of improved delivery of medical care, and an overall community contribution by the university.

The College of Medicine's presence locally has raised awareness of the university among the entire health-care provider community.

Since the College of Medicine expanded locally, a considerable number of students from other FSU colleges and departments in Tallahassee have participated in annual community service initiatives in the Immokalee area.



IMPACTS ON STATE AND NATIONAL MEDICAL EDUCATION POLICY AND PRACTICE

When the College of Medicine earned full accreditation in 2004, it was the first new school in the nation in over 20 years. Over the past decade, however, 20 new schools in 11 states and one U.S. territory have received some level of LCME accreditation. Of those, four schools achieved preliminary status in 2015 and are just now recruiting their inaugural classes, while four others still await preliminary status. Additionally, seven newly proposed schools have applied to be considered for LCME accreditation at this time (according to the online LCME Medical School Directory).

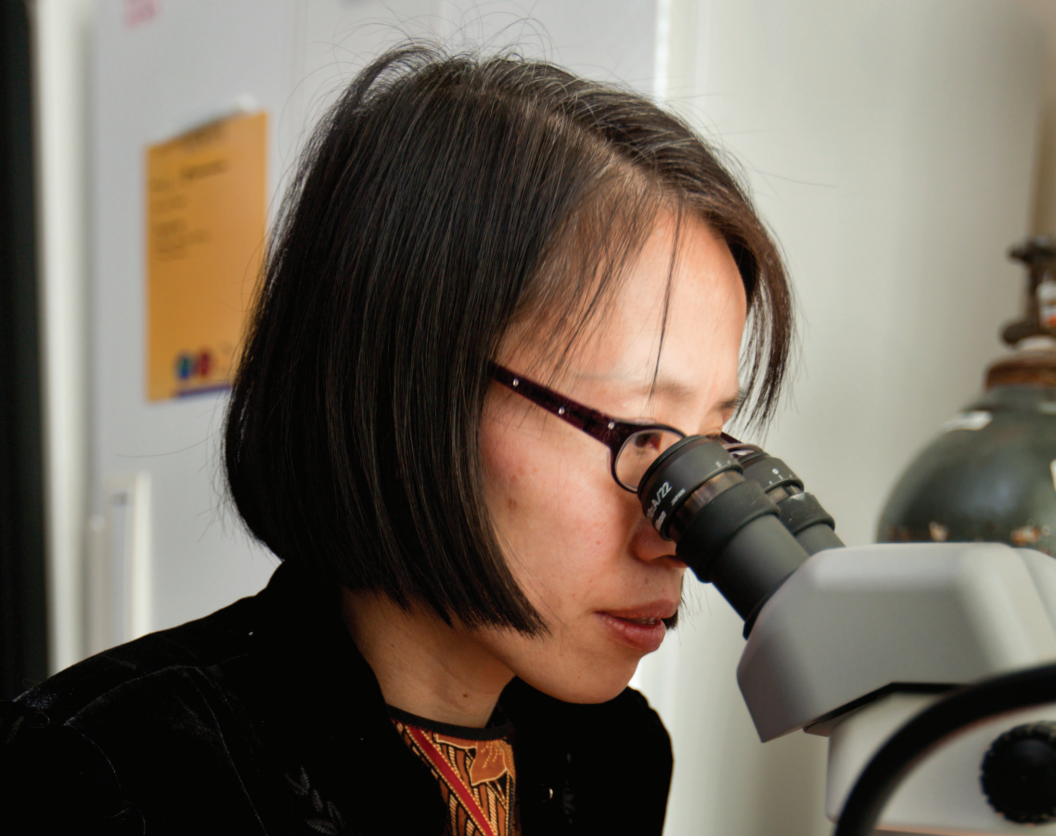
While the same physician workforce issues that contributed to the establishment of a new medical school at FSU in 2000 clearly had a major role in creation of the other new schools, a potentially greater contribution by the College of Medicine to this new wave of medical schools is its innovative instructional delivery model.

The College of Medicine has generated considerable interest in the model and has had significant influence on a number of institutions planning new medical schools over the past 15 years. In 2010, more than a dozen institution representatives visited the College of Medicine to participate in an AAMC New and Developing Schools Consortium. Schools exploring components of the FSU delivery model seek to understand its recruitment, didactic, clinical and operational strategies, outreach and Bridge programs to effectively incorporate such components into their own planning efforts. In addition, in the past five years College of Medicine administrators have hosted a number of other school delegations looking to delve deeper into various features of this model, particularly its focus on primary care and its mission to serve rural and underserved populations.

“ This school attracts a very unique student. I think that it's easy to be brilliant; it's a little extra step to be brilliant and to be able to look someone in the face and talk to them! And I think that's the kind of student that FSU attracts – the kind of physician that does truly care about their patients and their wellbeing. ”

– Abby Peters (M.D., '11)





IMPACT OF FLORIDA STATE UNIVERSITY COLLEGE OF MEDICINE RESEARCH

Florida State University is a major research university, with a goal to become even more nationally prominent through the growth of its research endeavors. A high proportion of the nation's top-ranked research universities rely heavily on the research productivity of medical faculty members to maintain and build their campus reputations. Medical research attracts both federal (primarily the National Institutes of Health) and corporate sponsors, and health-related grants account for approximately one quarter of sponsored research funding in the United States.

The 2010 socioeconomic impact report for the Florida State University College of Medicine recognized the emergence and early success of the college's sponsored research activity. In particular, the report noted growth in external research funding from \$3.7 million to \$10.6 million between FY04 and FY09, and observed the additional funds generated by the College of Medicine accounted for 32 percent of the entire university's increase in research funding. Importantly, the research performance reported in the 2010 study was achieved while the college was still primarily focused on building toward its full enrollment capacity and recruiting the faculty needed to accommodate the additional students.



BACKGROUND

The College of Medicine has six regional campuses and three other satellite educational training sites with facilities and community-based faculty engaged in the training of future physicians. Around 2,500 physicians with practices across the spectrum of medical specialties are clinical faculty members. Their patients are of many ethnicities, ages and socioeconomic backgrounds, and cover the human condition from health to disease. The College of Medicine's Clinical Research Network (CRN) is built upon this educational network and, over the past several years, has begun research at several of the regional campuses with some of the roughly 2 million patients in these physicians' practices. Research coordinators play a vital role in enabling these physicians' participation in research. Completed projects include the diagnosis of mild concussion in adolescents and detection of health risks to teenagers during physician visits.

Also, research core facilities in the college have reached maturity that will enhance population studies involving human genomics, proteomics, metabolomics as well as capacity for storage of specimens for future studies. The college's Translational Science Lab was started in 2011, bringing FSU its first next-generation sequencer, capable of sequencing the entire human genome in under three days.

With upgrades, that time continues to decrease. This machine is also able to sequence the entire human transcriptome, all expressed RNA molecules. The sequencer now runs 24/7, 12 months a year, for research in the college, in the university and for external users. In addition, proteomic and metabolomics instrumentation enables the study of the epigenome, which reveals another level of gene regulation. The tissue storage capabilities of the lab can accommodate hundreds of thousands of specimens or more. The College of Medicine is participating in the knowledge acquisition necessary for the promise of personalized medicine to be fully realized.

FSU COLLEGE OF MEDICINE RESEARCH PERFORMANCE, 2011-15

Now that enrollment in the M.D. program has stabilized, the College of Medicine has been able to devote greater attention to the development of its research and graduate education programs. As documented in the exhibits that follow, faculty researchers are now making significantly greater contributions to the college's social and economic impact for the people of Florida than in 2010.

Exhibit 5-1 summarizes progress over the most recent five-year period compared with the FY2010 base year in terms of the numbers of research proposals submitted and the numbers and dollar values of awards for the college's sponsored research program. Performance has been impressive:

- The number of proposals submitted annually has increased by 36 percent since FY2010.
- The number of awards received annually has increased by 86 percent.
- The dollar value of awards received has more than doubled, increasing by 128 percent.
- Awards over the five-year period totaled \$55.8 million.

Exhibit 5-1

Growth in College of Medicine Research Activity, FY2010-15

| Performance Measure | Base Year | Five Years of Performance | | | | | 5-Year Total | Change FY10-FY15 | % Change FY10-FY15 |
|-------------------------------------|-----------|---------------------------|---------|---------|---------|---------|--------------|------------------|--------------------|
| | FY09-10 | FY10-11 | FY11-12 | FY12-13 | FY13-14 | FY14-15 | | | |
| Number of Proposals Submitted | 83 | 113 | 117 | 96 | 104 | 113 | 543 | 30 | 36.1 |
| Number of Awards Received | 49 | 58 | 62 | 54 | 75 | 91 | 340 | 42 | 85.7 |
| Awards (in millions) | \$8.6 | \$10.1 | \$9.0 | \$7.0 | \$10.1 | \$19.6 | \$55.8 | \$11.0 | 127.9 |
| Average Amount of Award (thousands) | \$175.5 | \$174.1 | \$145.2 | \$129.6 | \$134.7 | \$215.4 | \$164.1 | \$39.9 | 22.7 |

During this same five-year period, the College of Medicine has emerged as the university's top-performing college for

sponsored research activity. Research performance by college is summarized in **Exhibit 5-2**.

Exhibit 5-2

**Research Performance by College
Florida State University, FY2010-15**

| FSU Five-Year Change in Research Award Counts, By College | | | | | | | | | |
|---|--------------|---------------------------|--------------|--------------|--------------|--------------|--------------|------------------|--------------------|
| College | Base Year | Five Years of Performance | | | | | 5-Year Total | Change FY10-FY15 | % Change FY10-FY15 |
| | FY09-10 | FY10-11 | FY11-12 | FY12-13 | FY13-14 | FY14-15 | | | |
| Arts & Sciences | 376 | 406 | 358 | 364 | 380 | 413 | 1,921 | 37 | 9.8% |
| Business | 62 | 60 | 43 | 77 | 68 | 62 | 310 | 0 | 0.0% |
| Communication & Information | 26 | 21 | 21 | 20 | 18 | 19 | 99 | -7 | -26.9% |
| Criminology & Criminal Justice | 9 | 8 | 6 | 9 | 10 | 11 | 44 | 2 | 22.2% |
| Education | 49 | 45 | 47 | 44 | 51 | 41 | 228 | -8 | -16.3% |
| Engineering | 64 | 77 | 63 | 71 | 85 | 83 | 379 | 19 | 29.7% |
| Fine Arts | 6 | 10 | 11 | 15 | 9 | 12 | 57 | 6 | 100.0% |
| Human Sciences | 18 | 18 | 35 | 34 | 35 | 30 | 152 | 12 | 66.7% |
| Law | 5 | 5 | 6 | 11 | 5 | 4 | 31 | | -20.0% |
| Medicine | 49 | 58 | 62 | 54 | 75 | 91 | 340 | 42 | 85.7% |
| Motion Picture Arts | 1 | 1 | 1 | 1 | 0 | 0 | 3 | | |
| Music | 5 | 9 | 5 | 4 | 3 | 6 | 27 | 1 | 20.0% |
| Nursing | 6 | 7 | 8 | 5 | 4 | 3 | 27 | -3 | -50.0% |
| Social Sciences & Public Policy | 73 | 73 | 72 | 88 | 78 | 119 | 430 | 46 | 63.0% |
| Social Work | 9 | 12 | 21 | 27 | 11 | 26 | 97 | 17 | 188.9% |
| Sum of Colleges | 758 | 810 | 759 | 824 | 832 | 920 | 4,145 | 162 | 21.4% |
| Other Units | 384 | 412 | 407 | 381 | 354 | 361 | 1,915 | -23 | -6.0% |
| University Totals | 1,142 | 1,222 | 1,166 | 1,205 | 1,186 | 1,281 | 6,060 | 139 | 12.2% |



FSU Five-Year Change in Research Award Dollars, By College

| College | Base Year | Five Years of Performance | | | | | 5-Year Total | Change FY10-FY15 | % Change FY10-FY15 |
|---------------------------------|----------------|---------------------------|----------------|----------------|----------------|----------------|------------------|------------------|--------------------|
| | FY09-10 | FY10-11 | FY11-12 | FY12-13 | FY13-14 | FY14-15 | | | |
| Arts & Sciences | \$57.5 | \$62.8 | \$50.5 | \$53.0 | \$57.4 | \$45.1 | \$268.8 | (12.4) | -21.6% |
| Business | \$2.5 | \$2.5 | \$2.8 | \$2.7 | \$3.2 | \$4.5 | \$15.7 | 2.0 | 80.0% |
| Communication & Information | \$2.6 | \$2.7 | \$2.7 | \$4.0 | \$3.5 | \$5.3 | \$18.2 | 2.7 | 103.8% |
| Criminology & Criminal Justice | \$1.9 | \$0.6 | \$0.1 | \$0.7 | \$1.2 | \$1.4 | \$4.0 | (0.5) | -26.3% |
| Education | \$4.6 | \$6.2 | \$7.6 | \$7.6 | \$9.0 | \$6.0 | \$36.4 | 1.4 | 30.4% |
| Engineering | \$10.3 | \$8.5 | \$5.5 | \$10.7 | \$9.4 | \$8.5 | \$42.6 | (1.8) | -17.5% |
| Fine Arts | \$0.3 | \$0.2 | \$0.1 | \$0.8 | \$0.3 | \$1.5 | \$2.9 | 1.2 | 400.0% |
| Human Sciences | \$1.6 | \$1.3 | \$2.3 | \$0.5 | \$2.2 | \$1.9 | \$8.2 | 0.3 | 18.8% |
| Law | \$0.4 | \$0.3 | \$0.7 | \$0.5 | \$0.7 | \$0.2 | \$2.4 | (0.2) | -50.0% |
| Medicine | \$8.6 | \$10.1 | \$9.0 | \$7.0 | \$10.1 | \$19.6 | \$55.8 | 11.0 | 127.9% |
| Motion Picture Arts | \$0.8 | \$2.9 | \$0.1 | \$0.0 | \$0.0 | \$0.0 | \$3.0 | (0.8) | |
| Music | \$0.4 | \$0.4 | \$0.4 | \$0.4 | \$0.3 | \$0.3 | \$1.8 | (0.1) | -25.0% |
| Nursing | \$0.9 | \$2.4 | \$0.9 | \$0.5 | \$0.4 | \$0.3 | \$4.5 | (0.6) | -66.7% |
| Social Sciences & Public Policy | \$5.5 | \$3.9 | \$4.8 | \$3.8 | \$4.6 | \$5.7 | \$22.8 | 0.2 | 3.6% |
| Social Work | \$0.7 | \$1.0 | \$1.1 | \$2.0 | \$0.8 | \$2.7 | \$7.6 | 2.0 | 285.7% |
| Sum of Colleges | \$98.6 | \$105.8 | \$88.6 | \$94.2 | \$103.1 | \$103.0 | \$494.7 | 4.4 | 4.5% |
| Other Units | \$116.7 | \$97.7 | \$101.7 | \$106.0 | \$127.0 | \$97.8 | \$530.2 | (18.9) | -16.2% |
| University Totals | \$215.3 | \$203.5 | \$190.3 | \$200.2 | \$230.1 | \$200.8 | \$1,024.9 | (14.5) | -6.7% |



FSU Five-Year Change in Average Research Award Dollars in Thousands, By College

| College | Base Year | Five Years of Performance | | | | | Five-Year Total | Change FY10-FY15 | % Change FY10-FY15 |
|---------------------------------|----------------|---------------------------|----------------|----------------|----------------|----------------|-----------------|------------------|--------------------|
| | FY09-10 | FY10-11 | FY11-12 | FY12-13 | FY13-14 | FY14-15 | | | |
| Arts & Sciences | \$152.9 | \$154.7 | \$141.1 | \$145.6 | \$151.1 | \$109.2 | \$139.9 | (\$43.7) | -28.6% |
| Business | \$40.3 | \$41.7 | \$65.1 | \$35.1 | \$47.1 | \$72.6 | \$50.6 | \$32.3 | 80.0% |
| Communication & Information | \$100.0 | \$128.6 | \$128.6 | \$200.0 | \$194.4 | \$278.9 | \$183.8 | \$178.9 | 178.9% |
| Criminology & Criminal Justice | \$211.1 | \$75.0 | \$16.7 | \$77.8 | \$120.0 | \$127.3 | \$90.9 | (\$83.8) | -39.7% |
| Education | \$93.9 | \$137.8 | \$161.7 | \$172.7 | \$176.5 | \$146.3 | \$159.6 | \$52.5 | 55.9% |
| Engineering | \$160.9 | \$110.4 | \$87.3 | \$150.7 | \$110.6 | \$102.4 | \$112.4 | (\$58.5) | -36.4% |
| Fine Arts | \$50.0 | \$20.0 | \$9.1 | \$53.3 | \$33.3 | \$125.0 | \$50.9 | \$75.0 | 150.0% |
| Human Sciences | \$88.9 | \$72.2 | \$65.7 | \$14.7 | \$62.9 | \$63.3 | \$53.9 | (\$25.6) | -28.8% |
| Law | \$80.0 | \$60.0 | \$116.7 | \$45.5 | \$140.0 | \$50.0 | \$77.4 | (\$30.0) | -37.5% |
| Medicine | \$175.5 | \$174.1 | \$145.2 | \$129.6 | \$134.7 | \$215.4 | \$164.1 | \$39.9 | 22.7% |
| Motion Picture Arts | \$800.0 | \$2,900.0 | \$100.0 | \$0.0 | \$0.0 | \$0.0 | \$1,000.0 | (\$800.0) | |
| Music | \$80.0 | \$44.4 | \$80.0 | \$100.0 | \$100.0 | \$50.0 | \$66.7 | (\$30.0) | -37.5% |
| Nursing | \$150.0 | \$342.9 | \$112.5 | \$100.0 | \$100.0 | \$100.0 | \$166.7 | (\$50.0) | -33.3% |
| Social Sciences & Public Policy | \$75.3 | \$53.4 | \$66.7 | \$43.2 | \$59.0 | \$47.9 | \$53.0 | (\$27.4) | -36.4% |
| Social Work | \$77.8 | \$83.3 | \$52.4 | \$74.1 | \$72.7 | \$103.8 | \$78.4 | \$26.1 | 33.5% |
| Average of Colleges | \$130.1 | \$130.6 | \$116.7 | \$114.3 | \$123.9 | \$112.0 | \$119.3 | (\$18.1) | -13.9% |
| Other Units | \$303.9 | \$237.1 | \$249.9 | \$278.2 | \$358.8 | \$270.9 | \$276.9 | (\$33.0) | -10.9% |
| University Avg. | \$188.5 | \$166.5 | \$163.2 | \$166.1 | \$194.0 | \$156.8 | \$169.1 | (\$31.8) | -16.9% |

Compared with the number of research grants awarded to other FSU colleges, the College of Medicine had:

- The second highest increase in the number of awards between FY2010 and FY2015.
- The third highest percentage increase in the number of awards, and the highest among those colleges with a significant volume of research activity.

The College of Medicine accounted for 8.2 percent of all awards received by the academic colleges (the “other unit” category includes such non-college research centers as the mag lab and the learning systems institute) over the five-year period.

When we compared the dollar value of awards granted in FY2015 with those from FY2010, the College of Medicine’s pace-setting performance was even more evident:

- The College of Medicine received the largest increase in dollars awarded.
- It had the largest percentage increase in dollars for colleges with significant research programs.
- Its share of total dollars awarded to FSU colleges increased from 9 percent to 19 percent over the five-year period.

In fact, amounts awarded to the university overall decreased by \$14.5 million while the College of Medicine was experiencing an increase of \$11 million in research awards.



“The work being done by Amy Wetherby, Mohamed Kabbaj, Les Beitsch and Yanchang Wang exemplifies the dynamic growth and breadth of discovery taking place at the College of Medicine over the past five years. Their research programs, while quite different, all address the FSU College of Medicine’s mission to enhance the health of Florida’s citizens.”

– **Myra Hurt**,
senior associate dean for research and
graduate programs

The average dollar value of an award for the COM increased by 23 percent, from \$175,000 in FY2010 to \$215,000 in FY2015. The \$215,000 average award size ranks second among all FSU colleges, easily topping the all-college average of \$112,000 and the overall university average of \$157,000. The dollar value of an average award to a College of Medicine researcher was 37 percent greater than the university average in FY2015.

A final measure of the successful research performance of the College of Medicine’s faculty is the dollar value awarded per full-time faculty member. This metric facilitates comparisons of faculty performance across large and small academic units. As seen in **Exhibit 5-3**, the College of Medicine is the leader of all FSU colleges on this measure, with \$136,000 awarded per faculty member, over twice the all-college rate of \$60,000.

Exhibit 5-3

**Average Research Award per Full-Time Faculty Member
Florida State University by College, FY2014-15**

| College | FY14-15 | Fall 2014 Full-Time Faculty | Awards (\$) per Faculty |
|--------------------------------|----------------|--------------------------------|-------------------------|
| Arts & Sciences | \$45.1 | 576 | \$78,299 |
| Business | \$4.5 | 121 | \$37,190 |
| Communication & Information | \$5.3 | 79 | \$67,089 |
| Criminology & Criminal Justice | \$1.4 | 19 | \$73,684 |
| Education | \$6.0 | 206 | \$29,126 |
| Engineering | \$8.5 | 69 | \$123,188 |
| Fine Arts | \$1.5 | 98 | \$15,306 |
| Human Sciences | \$1.9 | 46 | \$41,304 |
| Law | \$0.2 | 56 | \$3,571 |
| Medicine | \$19.6 | 144 | \$136,111 |
| Motion Picture Arts | \$0.0 | 23 | \$0 |
| Music | \$0.3 | 84 | \$3,571 |
| Nursing | \$0.3 | 27 | \$11,111 |
| Social Sciences | \$5.7 | 122 | \$46,721 |
| Social Work | \$2.7 | 29 | \$93,103 |
| Sum of Colleges | \$103.0 | 1,699 | \$60,624 |
| Other Units | \$97.8 | 412 | \$237,379 |
| University Totals | \$200.8 | 2,111 | \$95,121 |

Sources: Research awards - FSU Office of Research, Faculty - FSU Office of Institutional Research.

MAJOR FSU COLLEGE OF MEDICINE RESEARCH INITIATIVES

The research programs in the College of Medicine reflect its different disciplines, from understanding the molecular basis of diseases found in aging humans such as fibrosis of liver or lungs, cancer and dementia to the training of the geriatric workforce, studies of public health issues and policy, and early diagnosis of autism. The 340 awards received over the five-year period under review (FY2011 through FY2015) ranged from relatively small seed grants to major awards. In many cases, College of Medicine researchers collaborated with faculty from other programs in the university as well as with colleagues from other institutions.

Some of the more notable awards to the College of Medicine during this period were received by:



Amy Wetherby, Ph.D.

Distinguished Research Professor in the College of Medicine Department of Clinical Sciences and the Laurel Schendel Professor of Communication Disorders, was awarded NIH grant projects totaling \$14.1 million through two RO1 grants and three subcontracts during the fiscal years 2010-2015. She also has other substantial sources of funding. Wetherby has long been interested in the diagnosis and treatment of autism and is the director of the College of Medicine's Autism Institute. One of her long-term projects has been the development of the Autism Navigator[®],

a unique collection of web-based tools and courses developed to bridge the gap between science and community practice, intended to improve early detection of autism and communication disorders in very young children and increase access to early intervention. Longer term, the goal is to increase the number of these children who are ready to learn and can succeed in general education kindergarten. Wetherby's collaborators during the five-year period include faculty from the College of Medicine's departments of Family Medicine and Rural Health and Behavioral Sciences and Social Medicine, and FSU's departments of Statistics and Communication and the Early Childhood Research and Practice Center, as well as her collaborators in the College of Medicine Autism Institute. She also collaborated with faculty at Emory University, the University of South Florida and the University of California-Los Angeles, as well as the Florida Department of Education, the Florida Department of Health, and agencies in Pennsylvania and Tennessee in her research.



Mohamed Kabbaj, Ph.D.

Professor of biomedical sciences in the College of Medicine, was one of the first research faculty hired in the Department of Biomedical Sciences in 2002, two years after the creation of the medical school. His research interest is to examine the basis of sex differences in emotional behavior. Mood disorders such as anxiety and depression occur more often in women than men, yet most clinical and preclinical studies have used male subjects. Kabbaj understood early on in his career that to understand mood disorders one has to study them in female subjects and contrast the findings with their male counterparts. His NIH awards during the five years covered by this report totaled \$3.6 million. Sex differences in effects of drugs used for depression is one of his research projects funded by NIH. Current medications used for treatment of depression, which is a major health issue in the United States, suffer from several limitations, including varying results between individuals. The National Institute of Mental Health estimates that major depressive disorder affects more than 20 million U.S. adults — mostly women. This research will be helpful in identifying the right treatment for affected individuals. Kabbaj has several collaborators in the Biomedical Sciences Department as well as a neuroscience professor in FSU's Psychology Department. He has a very active collaboration with the director of the Friedman Brain Institute of the Mount Sinai Medical Center in New York.



Les Beitsch, M.D., J.D.

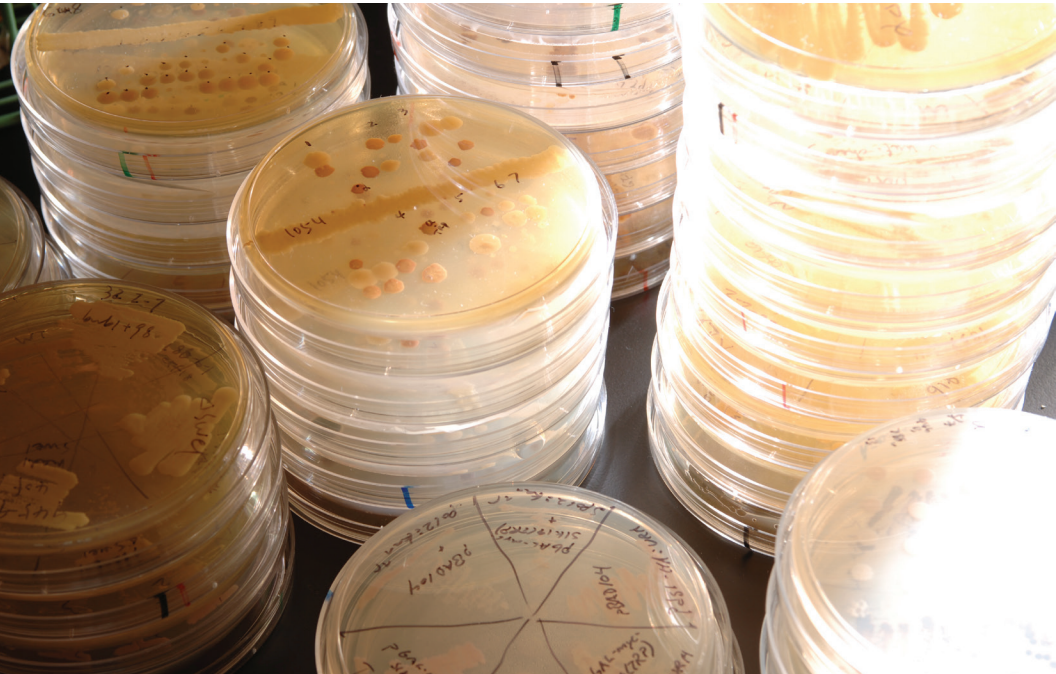
Professor and chair of the College of Medicine's Department of Behavioral Sciences and Social Medicine, has his research interest in health policy and related outcomes. Grant and contract dollars to Beitsch as principal investigator total \$8 million during the fiscal years 2010-15. Of that amount, \$1.7 million was Centers for Medicare and Medicaid funding granted to the state of Florida for some of the research conducted by Beitsch and his team to evaluate the Florida Attorney General Office's data-mining activities for the detection of Medicaid fraud. The Florida Agency for Health Care Administration was the contracting agency. Another component of this particular project was to evaluate utilization, expenditures, clinical outcomes and recipient demographics for Florida Medicaid recipients to improve quality of care. On his various funded projects he has collaborated with his departmental research team, the College of Medicine's Department of Geriatrics, the FSU College of Social Work and the FSU Claude Pepper Center. Other collaborators include faculty at Florida A&M University and Arizona State University, and partners at Florida's Department of Health, AHCA, the National Network of Public Health Institutes, and the Republican State Governmental Enterprise of Kazakhstan.



Yanchang Wang, Ph.D.

Professor in the College of Medicine's Biomedical Sciences Department and also one of the first faculty members to join that department, has his research interest in the molecular regulation of cell division — the processes that, when damaged or mutated, can lead to cancer. His NIH total award for the period of this report was \$1.4 million, with total grant dollars \$1.5 million. The NIH funding in his lab supports the study of the process that directs the appropriate separation of chromosomes during cell division. Failure of the process under examination leads directly to genetic disorders, such as cancer and birth defects. This research is

expected to identify new targets for cancer diagnosis and treatment. Wang's research collaborators include a number of faculty in Biomedical Sciences as well as several in the Department of Biological Sciences, College of Arts and Sciences. He is collaborating with the Institute of Medicinal Technology, Chinese Academy of Medical Science in Beijing, China, to identify potential drug treatments for cancers caused by failure of the cell division regulatory processes he is studying.



GRADUATE EDUCATION

Along with the growth of its sponsored research funding, the College of Medicine has seen a significant increase in its graduate enrollment. Enrollment at the Ph.D. level, in particular, has grown by 23 percent over the past few years. The college has also enrolled its first M.D./Ph.D. student. Enrollment at the master's and doctorate levels by year is shown in **Exhibit 5-4**. The sponsored research and doctoral education programs are closely integrated, and each is expected to continue a pattern of significant growth over the next decade.

In 2006, the College of Medicine created a Summer Research Fellowship program for medical students, targeting primarily medical students between Years 1 and 2 of medical school. Since then, 153 medical students have been awarded \$2,500 each for a nine-week research experience ranging from laboratory bench research to community-based projects with clinical faculty of one of the college's regional campuses. For the years 2011 to 2015, there were 85 awards to medical students.

Exhibit 5-4

Trends in Graduate Enrollment FSU College of Medicine Fall 2009-Fall 2015

| Fall Term | Master's | Doctorate |
|-----------|----------|-----------|
| 2009 | 10 | 30 |
| 2010 | 11 | 31 |
| 2011 | 13 | 30 |
| 2012 | 13 | 32 |
| 2013 | 12 | 34 |
| 2014 | 13 | 32 |
| 2015 | 12 | 37 |

“ Being involved in research last summer gave me the opportunity to work directly with faculty and graduate students from other divisions of the College of Medicine. During my project on investigating how low-dose ketamine can be used as a fast-acting antidepressant, I gained an appreciation for the creativity and attention to detail required of projects like this that further our knowledge of medicine. ”

– **Malav Patel** (Class of 2018)





RECENT SIGNIFICANT DEVELOPMENTS

The preceding narrative and statistical overview document the tremendous success of the College of Medicine's sponsored research program in recent years, but numbers alone fail to tell the full story. Several large-scale grants to the college in recent months reinforce its social mission and align directly with its community-based, distributed instructional delivery model. Collectively, research resulting from these grants is expected to increase the quality of primary care in underserved areas and for populations that are often not represented in traditional research projects — by building on the Clinical Research Network, the infrastructure for aligning research and the college's community-based mission for education and research.

Two large grants in collaboration with the University of Florida College of Medicine that were funded in late 2015 will enable the growth of the Clinical Research Network to all regional campuses and satellite sites to full maturity through the addition of research coordinators at all sites. This collaboration, which also includes the University of Miami's School of Medicine, is called OneFlorida. The first grant, funded by the Patient-Centered Outcomes Research Institute (PCORI), has the goal of building a statewide, de-identified patient data archive for the

purpose of research. Ultimately, this will become part of a national clinical data archive. The OneFlorida archive will be developed with the participation of University of Florida Health, FSU's CRN and its partners, Tallahassee Memorial Hospital and Capital Health Plan, as well as FSU's clinic in Immokalee, Federally Qualified Health Centers in the Orlando area, Florida Hospital and Orlando Health in Orlando, and the University of Miami's hospitals.

The second large grant in which FSU is collaborating is from the Clinical Translational Science Institute of the National Institutes of Health. Again, building infrastructure for community-based research is a major goal. This grant will fund the staffing of the entire CRN with research personnel for the purpose of translating scientific discovery into cures in the community.

As described above, these grants have been awarded in recent months and are not fully reflected in the previous statistical exhibits. They not only represent further growth in research volume, but also reflect the growing stature of the College of Medicine's research program.

RESEARCH COMMERCIALIZATION

Finally, research advances from the laboratories of the College of Medicine's faculty are beginning to yield commercial success. In particular, faculty members have been supported by the FSU Office of Commercialization (part of the Office of Research) in establishing startup ventures. In fact, seven of the eight startups in 2015 were affiliated with the College of Medicine.

Commercialization leads to both economic and social impact. Startups can be considered a leading indicator of the economic value of College of Medicine research programs. As described in **Exhibit 5-5**, a number of commercialization initiatives by the college's researchers are attracting interest.

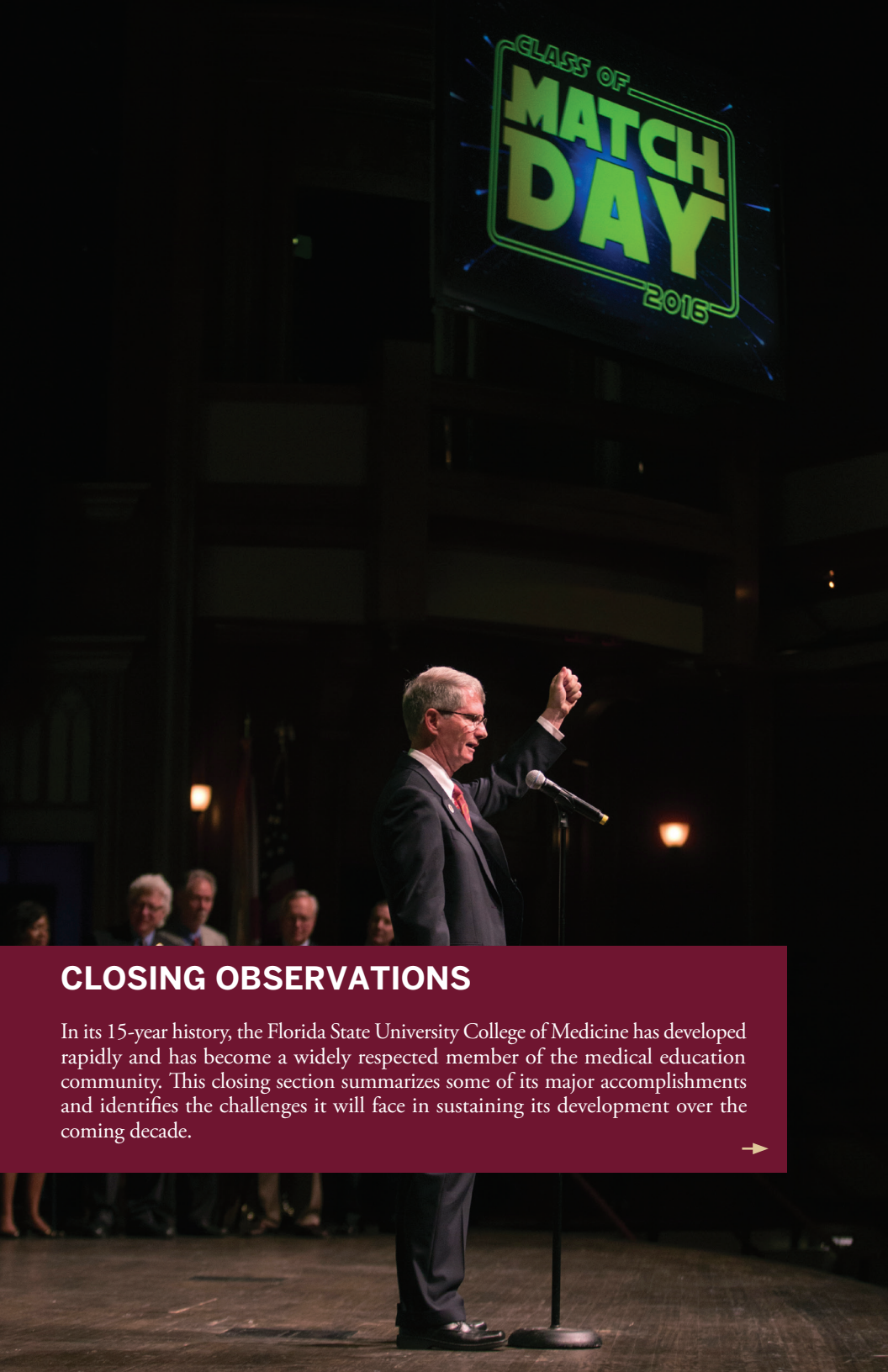
Exhibit 5-5

Startup Ventures Arising From College of Medicine Research Fiscal Year 2015

| Name of Startup Venture | Professor/ Entrepreneur | Nature of Product or Service |
|---------------------------|-------------------------|--|
| Alyzn, LLC | Ewa Bienkiewicz | Pursuing a unique approach to halting the progression of Alzheimer's disease |
| Autism Navigator, LLC | Amy Wetherby | Unique collection of web-based tools and courses developed to bridge the gap between science and community practice |
| Avekshan, LLC | Pradeep Bhide | Developing a non-stimulant, non-abusable drug for the treatment of ADHD |
| KynderMed, LLC | James Olcese | Simple, non-invasive medical device that will safely and effectively enable at-risk women to avoid the onset of premature labor |
| Southwood Scientific, LLC | Sanjay Kumar | Novel device capable of preserving and prolonging the viability of animal model tissue used for electrophysiology and/or histology studies |
| TreFoil Therapeutics, LLC | Michael Blaber | Focusing on the application of novel engineered FGF-1 compounds in underserved disease areas |

In summary, the College of Medicine's sponsored research program made great strides between FY2010 and FY2015. A remarkably high percentage of proposals resulted in grant awards, and the average

dollar value per award increased by 23 percent. In its brief history, the College of Medicine has become the pacesetter among FSU colleges for performance in sponsored research.

A man in a dark suit and glasses is speaking at a podium on a stage. He has his right arm raised in a gesture. Behind him, a large sign reads "CLASS OF MATCH DAY 2015" in a stylized, glowing font. The background is dark, suggesting an indoor event space.

CLASS OF
**MATCH
DAY**
2015

CLOSING OBSERVATIONS

In its 15-year history, the Florida State University College of Medicine has developed rapidly and has become a widely respected member of the medical education community. This closing section summarizes some of its major accomplishments and identifies the challenges it will face in sustaining its development over the coming decade.



SUMMARY OF IMPACTS

As noted in our 2010 socioeconomic impact report, the College of Medicine was envisioned from the outset as a special place. Not only was it expected to offer high-quality instructional programs for its students, but also it was intended to become a socially responsive medical school. In particular, the school's founding mission identified Florida's need for primary-care physicians, particularly for its rural, elderly and other underserved populations. On all these counts, the College of Medicine clearly has been successful throughout its 15-year history.

Quality of Instruction

Following the collection of both quantitative and qualitative information, MGT's analysis confirms that the College of Medicine continues to provide a high-quality instructional program to its students. Of particular note:

- Its students perform near or above the average on national licensure examinations and perform significantly better on average than predicted by their MCAT scores.
- Graduating students report levels of satisfaction at or above their counterparts elsewhere on most measures related to instructional quality and professional development on the AAMC Graduation Questionnaire (a national survey administered to all medical school graduates).
- Graduates are being selected by highly competitive residency programs and are attaining the prestigious "chief resident" designation at well above average rates – 21 percent of College of Medicine graduates through the Class of 2012 have served in this leadership role.

- Community faculty members who serve as physician mentors agree that *"College of Medicine students are better prepared technically, more professional, and have stronger patient skills."*

Physician Workforce

To date, the College of Medicine has graduated 11 classes. A total of 910 students have completed the M.D. degree — 574 of them in the past five years. Of the graduates since 2011, 93 have completed residency training and entered practice – nearly twice as many as were in practice just five years ago. As the number of graduates increases now that the school is at full capacity, its impact on Florida's physician workforce is likely to continue to grow:

- Half of Class of 2010 graduates who are now in practice have elected to stay in Florida – a retention rate that is highest among the state's medical schools and 30 percent greater than the national average.
- Despite the limited availability of residency slots in the state, more than one-third of all College of Medicine graduates (37 percent) have pursued residency training in Florida.
- The College of Medicine now produces approximately 120 graduates each year.

Importance of Primary Care

The legislation that established the College of Medicine emphasized that it “shall be dedicated to ... preparing physicians to practice primary care.” While the college enables its students to pursue the medical specialty of their choice, the number of students choosing to focus on primary care is noteworthy:

- On national surveys of matriculating students, College of Medicine entrants are 32 percent more likely to report plans to practice in a primary-care specialty than the national average.
- By design, the College of Medicine curriculum exposes students to successful primary-care physicians, enabling students to appreciate the importance of primary care in the nation’s health-care system.
- More than half (54 percent) of College of Medicine graduates in 2015 pursued residency training in primary care, compared with just 41 percent nationally.

Understanding Special Needs of the Elderly

In order to ensure that all graduates – regardless of intended medical specialty – have a strong grounding in the care and treatment of elders, the College of Medicine was founded as one of the few medical schools in the nation with a separate department of geriatrics.

- The curriculum provides 359 contact hours per student in the diagnosis and treatment of elders – a level of contact significantly greater than at other medical schools.



Emphasis on Rural Medicine

The establishment of a new medical school at FSU hinged on the proximity of the university to rural, medically underserved areas across North Florida. The College of Medicine targets prospective students from underserved regions and provides special training opportunities to successfully address rural health-care needs in the state:

- While fewer than 6 percent of College of Medicine applicants have come from statutorily designated rural counties, these counties have contributed 8.3 percent of its matriculants.
- In addition to its six regional campuses, the College of Medicine provides additional clerkship training opportunities in two rural locations, Mariana and Immokalee.
- Nearly 14 percent of the 213 College of Medicine graduates who are practicing in Florida have established practices in rural counties, although these counties constitute only 6 percent of the state’s population.

Underserved Populations

The College of Medicine was directed by the Legislature to “provide access to medical education for groups which are underrepresented in the medical profession.” A key component of the legislative intent was to address the needs of medically underserved populations. The college has developed a more diverse physician workforce and provides for the needs of the medically underserved in a number of ways:

- Nearly 14 percent of its matriculants (2011-15) are African-American or Native American, compared with just over 4 percent of the Florida M.D. workforce. Similarly, more than 16 percent of its matriculants are Hispanic, compared with fewer than 9 percent of the Florida physician workforce.
- It has been ranked by a national publication among the top 10 medical schools in the nation for Hispanic students.
- A major theme across all four years of the curriculum is providing health care to the underserved, and Immokalee offers a special clerkship site with opportunities to care for migrant workers and their families.

Impact on University Development

While this was not an explicit goal of its establishment, the College of Medicine has had favorable impacts on FSU itself. Nearly two decades ago, the Commission on the Future of Florida State University formulated a strategic plan that was intended to move the institution into “the top tier of America’s public universities.” The plan suggested possible expansion of the university’s role in medical education, which contributed to the legislative support for establishing the College of Medicine.

Some of the benefits to FSU as a result of the medical school include:

- The number of research proposals submitted annually has increased by 36 percent since 2010. In addition, the number of awards received annually has increased substantially (86 percent), and the dollar value of awards received has more than doubled (128 percent).
- Awards over the five-year period (FY2010-11 to FY2014-15) totaled \$55.8 million. Significant increases in sponsored research awards, with College of Medicine faculty generating the second highest increase in the number of awards and third highest percentage increase.
- FSU continues to benefit from an increase in average scores of entering students on the admissions tests (ACT and SAT), with the rate of increase improving at an even faster pace since the College of Medicine was established.
- Since 2008, the number of students selecting biological sciences and other fields considered as pre-medicine has increased more than 30 percent.
- The College of Medicine is now the second highest source of private giving among the university’s colleges and schools.

Florida’s leaders had great expectations for what the College of Medicine could become and would contribute to the quality of life in Florida when Gov. Jeb Bush signed House Bill 1121. While new challenges continue to emerge, it is clear that the hopes for a real impact on the state of Florida and its residents continue to be realized every day.

EMERGING TRENDS WITH SIGNIFICANT PROMISE

The College of Medicine, along with the rest of the university and with colleges and universities across the state, has experienced significant losses in its state appropriations since the recession began in 2008. Further, student and parent concerns about the increasingly high cost of tuition has limited the college's ability to fully offset decreased appropriations with tuition increases. The college has needed to explore other sources of funds for its further growth and development. In particular, it has expanded efforts to generate private gifts and to grow its sponsored research and commercialization programs. These efforts will need continued emphasis in the future.

As noted in Chapter 4, private giving to the College of Medicine over the past five years has totaled nearly \$23 million. But with the significantly greater cumulative loss in state general revenue appropriations, even more emphasis on private gifts will be needed to sustain the college's ability to deliver high-quality programs.

Support for sponsored research at the College of Medicine has increased by 128 percent over the past five years. While most external research funding is restricted for specific projects, an expanding research program does help to cover a greater proportion of the college's overhead costs. Revenue from commercialization efforts is just developing with minimal amounts accruing to the college, and such initiatives have strong growth prospects and potential financial benefit. Support for further growth in research grants and commercialization initiatives can help to broaden the college's financial base and make it less vulnerable to future drops in state general revenue appropriations.

The emerging successes in both private giving and research/commercialization programs have been important. Even greater emphasis will be needed in these areas for the college's continued development.



“ Really, an investor is looking at the people as much as the technology or the product itself. So when Pradeep [Bhide] was introduced to me and I met his team, and the product itself and the research that they had done, it really was a combination of all of those things that made this attractive. ”

– Tallahassee businessman Rick Kearney, providing the financial investment for Bhide's company Avekshan to see if its proposed new ADHD medication can be safe and effective in humans

CHALLENGES AND OPPORTUNITIES AHEAD

With its continued strong performance over the past five years, the College of Medicine has put to rest any doubts about its mission and educational delivery model. It now faces opportunities for expanded development and service to the people of Florida, but it must remain focused on its mission, which is even more critical today than when the college was founded.

Graduate Medical Education

State health leaders have recognized the need for expanded GME opportunities for well over a decade, but progress has been slow. Now that the College of Medicine is producing sizable numbers of graduates each year, and other new medical schools are also reaching their full enrollment levels, the need for more residency slots in Florida is becoming more acute. Many of the students the consulting team interviewed stated that gaining a residency slot in Florida is a high personal priority, but they expressed a desire to return to the state to practice even if out-of-state graduate medical education became necessary. One student, however, probably spoke for many when she said she fears she will not return to Florida if forced to leave for residency training, since she had grown tired of moving every few years and wants to establish roots. The closing section of MGT's 2010 socioeconomic impact report noted that with successful implementation of the undergraduate medical education program, the college's next challenge was GME. Just as it found ways to develop an innovative and highly effective medical school curriculum, the college can play a vital and creative role in expanding the state's system of graduate medical education.

Earlier in this report, we noted significant progress with the creation of four new programs with capacity for 25 new residents per year, and additional programs in the

planning pipeline. Despite this progress, much more remains to be done. FSU should set goals for significant expansion of residency programs and develop strategies for further development through its network of community-based clinical partners. The College of Medicine should consider a long-term goal of achieving parity between the number of entry slots for new residents entering training each year in its sponsored and affiliated GME programs with the number of students completing its M.D. program. The development strategy might emphasize the roles that regional campuses could play in supporting local clinical partners that would sponsor GME programs. Further, development of residency programs in other communities should be pursued, as the college did with Lee Memorial Health System in Fort Myers.

Further Development of Alumni Office

The College of Medicine now has more than 900 alumni, and more than 387 of them already in practice. While the largest proportion of those practicing alumni are in Florida, the college's alumni can now be found practicing in 37 states and the District of Columbia. Through the combined efforts of the alumni relations coordinator in the communications office and regional campus staff, the college has done a commendable job of keeping in contact with members of its family.

With the number of alumni soon to exceed 1,000, however, the capacity of the current alumni tracking system is becoming strained. This is a critical concern since the need to maintain close contact with alumni is especially important for the College of Medicine. In addition to serving the typical role for alumni relations, alumni tracking is mission-critical for FSU. Extensive information beyond traditional alumni records is needed to determine the college's

success in fulfilling its mission to produce primary-care physicians, especially those serving elder, rural and other underserved populations in the state. The college should develop a plan for further expanding its alumni relations capacity that considers additional staffing requirements, programming, software and data management.

New Health Professions Programs

The College of Medicine is in the advanced stages of planning a new physician assistant program. The program, while needed, must be developed with concern for any potential unintended impacts on the M.D. program. In particular, gaining and maintaining the support of community clinical faculty who may be asked to serve both the M.D. and PA programs will be critical. Pursuit of other potential new programs should be contingent on availability of sufficient resources for them to attain the same high level of quality that the M.D. program has achieved.

Core Values

The College of Medicine's founding mission served it well over its first decade because the mission addresses significant needs in the state and national health-care system. These social needs are at least as important today as they were when the college was founded, ensuring that its mission and core values will remain relevant for years to come.

Educational historians have noted that while many colleges and universities have been founded with distinctive missions that address specific needs, these entities often suffer from mission drift over time as initial successes become taken for granted. Mission drift becomes more likely as the



members of the founding leadership team leave their posts and the importance of the original mission is not considered a key factor in selection of new leaders.

The 2010 socioeconomic impact report noted recent retirements of several of the college's founders, and several additional retirements have occurred over the past few years. The potential loss of institutional memory and culture is even more likely now as the balance of main campus and regional campus founders are becoming candidates for retirement. Over half of the senior leadership positions are held by the only person to have had that role. While not becoming averse to opportunities for change introduced by new leaders recruited from other medical settings, the College of Medicine needs to develop an infrastructure to protect its heritage and sense of founding purpose.



med.fsu.edu