UNIVERSITY OF
SOUTH CAROLINA

School of Medicine
Greenville

Blueprint for Academic Excellence in the University of South Carolina School of Medicine Greenville (USCSOMG)

Revised: 4-15-15

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SECTION I

Executive Summary

Mission

Improve the health of the people and diverse communities we serve by educating health professionals who will care compassionately, teach innovatively, and improve constantly.

Vision

Transform health care for the benefit of the people and communities we serve.

Guiding Principles

1. USCSOM Greenville will be responsive to the changing health care needs of our society.
2. USCSOM Greenville will strive to consider the needs of the students, faculty, and administration in a manner which enhances the stature of both USC and GHS.
3. USCSOM Greenville understands that health care delivery is constantly evolving and that its physician graduates should facilitate and advocate transformation that improves care provision.
4. USCSOM Greenville will be integrated with all aspects of the GHS delivery system.
5. USCSOM Greenville will graduate physicians who understand and participate in research that compares the relative clinical effectiveness and outcomes of various treatments.
6. USCSOM Greenville supports development of a health care workforce that reflects future societal needs and the diversity of the communities served.
7. USCSOM Greenville will educate physicians to be champions for patient safety, standardization, evidenced based care, and quality; responsible to the medical needs of their community; sensitive to the societal cost of medicine; activists for the education of the future health care workforce; and practitioners that care for all patients regardless of race, social stature, or ability to pay.
8. USCSOM Greenville students will practice patient centered care that values the interdependent roles of health care providers and facilities in service to their patients.
9. USCSOM Greenville will produce physicians competent not only in medical knowledge, technical skill, and patient care, but also in compassion, collaborative interpersonal communication, professional responsibility and ethical behavior.
10. USCSOM Greenville believes that candidates for medical school who value professionalism and possess exceptional interpersonal communication skills can be prepared, identified, and selected to become successful practicing physicians.
11. USCSOM Greenville will establish a learning environment that emphasizes the relationship between undergraduate medical education and the real world of patient care.
12. USCSOM Greenville strives to alleviate the cost of medical education as a significant barrier to student matriculation and graduation, or as a factor in the selection of a career specialty.

13. USCSOM Greenville utilizes policies and procedures that synergistically combine the academic virtues of USC with the operational efficiencies of the GHS health system to the benefit of its students, faculty and staff.
14. USCSOM Greenville faculty will emphasize and demonstrate the clinical import of the materials that they teach.
15. USCSOM Greenville faculty selection, development, and promotion processes will favor those committed to their profession as a calling; who view their teaching ability as a gift and privilege.
16. USCSOM Greenville graduates will be fully prepared and highly competitive to enter graduate medical education.
17. USCSOM Greenville appreciates that access to medical information is constantly changing and that educational focus must continually emphasize methods to optimally acquire the most current knowledge.
18. USCSOM Greenville will utilize educational resources, infrastructure and technology in a fiscally responsible manner, incorporating external resources in the education of health care students when advantageous.

The University of South Carolina School of Medicine Greenville welcomed its third class of students in the fall of 2014. As we approach Academic Year 2015 – 2016, we look forward to welcoming our first class of 100 students and the graduation of our charter class in the spring. The School remains in a building mode, not only with its class size, but also with the anticipated recruitment of the last few members of the biomedical sciences faculty and related support staff.

Funding for the USC School of Medicine Greenville is provided through a combination of tuition dollars, interest income from $75 million set aside from the Endowment Fund of the Greenville Health System, Inc., philanthropy, and operational support dollars from the Greenville Health System (GHS). The educational program of the medical school is adequately funded and no material changes would be recommended based on an increase of 5% in funding from GHS. A reduction of 5% in funding would require a hold on additional support staffing hires and reductions in budgeted operating expenses in areas such as travel and outside educational offerings.

SECTION II

Five-Year Academic Goals

Goals

Five-Year Goals

Goal 1: **Recruit a full contingent of Biomedical Sciences Faculty (24) and transition four Clinical Department Chairs (Family Medicine, Medicine, Orthopaedics and Pediatrics).**

Progress: Nineteen Biomedical Sciences (BMS) faculty members have been recruited. We anticipate another two to four faculty members will be recruited in AY 2015-2016. The new Chairs of Internal Medicine (Dr. Peter Tilkmeier) and Emergency Medicine (Dr. Scott Sasser) have taken charge of their departments and are leading effectively. Consideration will be given to recruitment of an Orthopaedic Chair in 2016, as currently the interim Chair is functioning well over Orthopaedics and Surgery simultaneously. The Pediatric timeline will be determined by the plans of the sitting Chair.

Goal 2: **Graduate the first class in 2016 and achieve 95% residency placement (national match rate 95% in 2012 and 93.7% in 2013) in the National Residency Match Program.**

Progress: The inaugural class of 2016, consisting of fifty-three students, matriculated in July, 2012. One student took a leave of absence and has chosen not to return. There are 3,111 applicants for the 100 positions in the class of 2019.

Goal 3: **Achieve provisional LCME accreditation in 2014 and full accreditation in 2016.**

Progress: Provisional accreditation was achieved in October 2014. Under the direction of the Dean and Senior Associate Dean, institutional self-study documents will be submitted in Summer 2015, for the October, 2015, full accreditation site visit.

Goal 4: **Achieve 95% three year pass rate for eligible students on the USMLE.**

Progress: Historical national pass rates for USMLE Step 1 range from 94% - 95%. All members of the inaugural class have taken the exam with a pass rate of 100%. In preparation for this exam, all assessment items that the students encounter throughout the first two years (formative and summative assessments) are written to National Board Standards and Guidelines. In addition, all medical students participate in progress testing using a National Board produced Integrated

Basic Science exam that mirrors Step 1 of the USMLE. Students took this exam upon matriculation, mid-Year 1, end of Year 1, mid-Year 2, and end of Year 2 before taking the USMLE. This allows continuous monitoring of individual student progress, as well as assessment of the curriculum in preparation for National Boards. Serial scores have shown progressive improvement within the class, along with the not unexpected bell curve of results. Online test preparation resources are also available and encouraged to the students through our Information Resources and include Exam Master and USMLE World.

Goal 5: Complete $80 million capital campaign.

Progress: The public phase of the Campaign will be launched in the fourth quarter of 2015. The silent phase strategic philanthropic campaign in support of the academic health system and GHS Clinical University continues with major focus on the USCSOMGreenville and GHS Clinical Services. Success will be measured by philanthropic contributions generated in cash, pledges and testamentary gifts. Contributions to GHS should be at least $8.5 million. Contributions to USCSOMG should be at least $1.5 million. Campaign totals should be at least $60 million.

SECTION III

Unit Academic Goals

2014-2015 Academic Year Goals

Goal 1: Achieve LCME provisional accreditation

Results: Provisional accreditation was achieved in October 2014 following a successful site visit in July. The LCME commended the School on its financial model, state-of-the-art facilities, and the innovative Med Ex Academy pipeline program.

Goal 2: Recruit highly qualified class of 2019 at target size of 100 students

Results: 3,111 applications have been received for the class of 2019.

Goal 3: Deliver years 1-3 of curriculum in an increasingly integrated fashion and complete planning of 4th year

Results: Completed. Third year students are two-thirds of the way through their academic year and will begin the fourth year July, 2015

Goal 4: Complete Biomedical Sciences Department infrastructure; recruit permanent Chair; complete faculty recruitment; and establish P&T unit criteria and non-tenure track criteria

Results: A search for a permanent Chair of Biomedical Sciences was conducted in late 2014 and early 2015. A new chair has been selected and started February 16, 2015. Promotion and tenure unit criteria for biomedical and clinical sciences were developed with significant input from USCSOMG faculty. The criteria were approved by the Office of the Provost and the UCTP in 2014. Nontenure track unit criteria for biomedical sciences, clinical and research faculty were also developed and approved in 2015.

Goal 5: Initiate Biomedical Sciences faculty research programs of their selection and establish collaborative relationships

Results: The Department of Biomedical Sciences (BMS) has four initiatives designed to enhance the development of scholarship and research consistent with institutional mission and vision.

- The faculty recruitment strategy supports the expectation of scholarly activity for all BMS faculty, who are intentionally recruited "with a passion for teaching; enthusiasm for building new programs; commitment to excellence in research/scholarship; and interest and

experience that enhances our educational and research endeavors".

- All BMS faculty have been tasked by the Chair to initiate relationships with clinical colleagues and to directly observe patient care activities as appropriate for the purpose of developing an understanding of the patient care and clinical delivery opportunities and interests of our partner institution, GHS.
- All BMS faculty participated in the Student Scholarship Mentor's Day, which provided an opportunity for them to meet faculty within our institutional environment who already engage actively and productively in research and scholarship. This engagement has allowed the faculty to begin linking collaboratively and strategically to ongoing research projects consistent with the institutional mission and vision.
- The Chair's Advisory Group on Unit Criteria was formed for BMS faculty to engage in discussions aimed at creating rigorous unit criteria that are aligned with the core values of the institution and consistent with institutional mission and vision.

Proposed Academic Dashboard Measures for USCSOMG

1. 100 highly qualified students (+/- 10%) to matriculate in July 2015

2. Maintain a minimum of 550 clinical faculty in eleven clinical departments

3. Biomedical Sciences Faculty

Name	**Rank**	**Specialty**
Sergio Arce, PhD	Clinical Associate Professor	Immunology
Kirk Baston, MD	Clinical Assistant Professor	Pathology
Robert Best, PhD	Professor	Cytogenetics
Andrew Binks, PhD	Research Associate Professor	Cardio Pulmonary Physiology
Asa Black, PhD	Clinical Professor	Neuro Anatomy
James Buggy, PhD	Associate Professor	Neuroscience
Richard Goodwin, PhD	Professor	Anatomy
Richard Hodinka, PhD	Professor	Microbiology
Mo Khalil, PhD	Clinical Associate Professor	Histology/Anatomy
Renee LeClair, PhD	Clinical Associate Professor	Biochemistry
Thomas Nathaniel, PhD	Clinical Assistant Professor	Neuroscience
Dennis Peffley, PhD	Clinical Professor	Biochemistry

Jayne Reuben, PhD	Clinical Associate Professor	Pharmacology
William Roudebush, PhD	Clinical Associate Professor	Reproductive Physiology
Brian Tobin, PhD	Professor	Physiology
Jennifer Trilk, PhD	Clinical Assistant Professor	Physiology
Matt Tucker	Clinical Assistant Professor	Neuroscience
Peggy Wagner, PhD	Research Professor	Research
Shanna Williams, PhD	Clinical Assistant Professor	Anatomy
Dennis Wolff, PhD	Clinical Associate Professor	Pharmacology
William Wright, PhD	Clinical Assistant Professor	Physiology
Core Faculty BMS		
John Brooks, PhD	Adjunct Professor	Population Health
Manuel Casanova, PhD	Professor	Neurology/Neuro Therapeutics
Anna Cass, PhD	Clinical Assistant Professor	Epidemiology
Cole Chapman, PhD	Clinical Assistant Professor	Population Health
Brent Egan, MD	Clinical Professor	Medicine
Matt Hudson, PhD	Clinical Assistant Professor	Population Health
Mary Hughes, MD	Clinical Associate Professor	Neuroscience
Rafael Igartua, MD	Volunteer Faculty	Medicine (GU/Renal)
William Kanner, MD	Clinical Assistant Professor	Pathology
Jennifer Knight, MD	Clinical Assistant Professor	Pathology
Rebecca Russ-Sellers, PhD	Clinical Assistant Professor	Health Administration/Policy
Windsor Sherrill, PhD	Adjunct Professor	Health Policy
Allison Young, MD	Clinical Assistant Professor	Pathology

4. Clinical Faculty:

Clinical Professor	Clinical Professor of Practice	Clinical Associate Professor	Clinical Assistant Professor	Clinical Instructor	Emeritus Clinical Professor	Emeritus Clinical Associate Professor
47	1	59	455	6	3	1

5. Contract Faculty:

Steven Blair, PhD	Adjunct Professor (USC – Arnold School of Public Health)	Exercise Science, Epidemiology, and Biostatistics
Neena L. Champaigne, MD	Adjunct Assistant Professor (Greenwood Genetics)	Clinical Faculty
Barbara DuPont, PhD	Adjunct Associate Professor (Greenwood Genetics)	Cytogenetics
Michael J. Friez, PhD	Adjunct Associate Professor (Greenwood	Director, Diagnostic Laboratory

	Genetics)	
Leta M. Tribble, PhD	Adjunct Assistant Professor (Greenwood Genetics)	Education
Tim Wood, PhD	Adjunct Assistant Professor (Greenwood Genetics)	Biochemical Laboratory

2015–2016 Academic Year Goals

Goal 1: Achieve LCME full accreditation

Goal 2: Complete Biomedical Sciences Department infrastructure and hire two to four additional faculty

Goal 3: Achieve 90% NRMP match rate

Goal 4: Initiate Biomedical Sciences faculty research programs of their selection and establish collaborative relationships

Goal 5: Establish collaborative working relationship with the Arnold School of Public Health

Section IV

Appendices

Appendix A

Resources

Academic Year 2016 Budget:

The proposed budget includes $12.6 million in tuition funding and $9.9 million in funding support from GHS. This amount includes $56 thousand to fund the 90-day contingency fund approved by the Joint Board Liaison Committee in February, 2013.

UNIVERSITY OF SOUTH CAROLINA SCHOOL OF MEDICINE GREENVILLE

Proposed Unrestricted Current Funds Summary

	AY 2014 - 2015 Projected						AY 2015 - 2016 Budget					
			E Funds						E Funds			
	A Funds	D Funds	Operating Support Funds	Contingency Fund	Dean's Fund	Total	A Funds	D Funds	Operating Support Funds	Contingency Fund	Dean's Fund	Total
RESOURCES:												
Revenue:												
Tuition and Fees	$ 7,602,336	$ -	$ 111,900	$ -	$ -	$ 7,714,236	$ 12,282,741	$ -	$ 172,800	$ -	$ -	$ 12,455,541
State Appropriations	-	-	-	-	-	-	-	-	-	-	-	-
Grants, Contracts and Gifts	-	-	11,560,269	107,253	500,000	12,167,522	-	-	8,767,212	55,939	500,000	9,323,151
Sales & Service of Educ and Other Sources	119,605	-	-	-	-	119,605	115,000	-	-	-	-	115,000
Sales & Service of Auxiliary Enterprise	-	-	-	-	-	-	-	-	-	-	-	-
Total	**$ 7,721,941**	**$ -**	**$ 11,672,169**	**$ 107,253**	**$ 500,000**	**$ 20,001,363**	**$ 12,397,741**	**$ -**	**$ 8,940,012**	**$ 55,939**	**$ 500,000**	**$ 21,893,692**
Transfers:												
Transfers-In	$ 12,607,692	$ -	$ -	$ -	$ -	$ 12,607,692	$ 10,055,369	$ -	$ -	$ -	$ -	$ 10,055,369
Transfers-Out	-	(112,400)	(12,195,292)	-	(300,000)	(12,607,692)	-	-	(9,555,369)	-	(500,000)	(10,055,369)
Net Transfers	**$ 12,607,692**	**$ (112,400)**	**$ (12,195,292)**	**$ -**	**$ (300,000)**	**$ -**	**$ 10,055,369**	**$ -**	**$ (9,555,369)**	**$ -**	**$ (500,000)**	**$ -**
Prior Year's Fund Balance	**$ 146,905**	**$ 113,439**	**$ 1,138,480**	**$ 1,324,005**	**$ 947,815**	**$ 3,670,644**	**$ -**	**$ -**	**$ 615,357**	**$ 1,431,258**	**$ 1,147,815**	**$ 3,194,430**
TOTAL RESOURCES	**$ 20,476,538**	**$ 1,039**	**$ 615,357**	**$ 1,431,258**	**$ 1,147,815**	**$ 23,672,007**	**$ 22,453,110**	**$ -**	**$ -**	**$ 1,487,197**	**$ 1,147,815**	**$ 25,088,122**
USES:												
Educational and General Expenditures:												
Instruction	$ 8,164,819	$ -	$ -	$ -	$ -	$ 8,164,819	$ 9,032,120	$ -	$ -	$ -	$ -	$ 9,032,120
Research	-	-	-	-	-	-	-	-	-	-	-	-
Public Service	-	-	-	-	-	-	-	-	-	-	-	-
Academic Support	858,677	-	-	-	-	858,677	2,097,965	-	-	-	-	2,097,965
Student Services	2,237,536	1,039	-	-	-	2,238,575	1,335,995	-	-	-	-	1,335,995
Institutional Support	3,779,798	-	-	-	-	3,779,798	3,738,914	-	-	-	-	3,738,914
Operation and Maintenance of Plant	3,848,851	-	-	-	-	3,848,851	3,768,502	-	-	-	-	3,768,502
Scholarships and Fellowships	1,586,857	-	-	-	-	1,586,857	2,479,614	-	-	-	-	2,479,614
Total	**$ 20,476,538**	**$ 1,039**	**$ -**	**$ -**	**$ -**	**$ 20,477,577**	**$ 22,453,110**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 22,453,110**
Auxiliary Expenditures	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL USES	**$ 20,476,538**	**$ 1,039**	**$ -**	**$ -**	**$ -**	**$ 20,477,577**	**$ 22,453,110**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 22,453,110**
						-						
FUND BALANCE	**$ -**	**$ -**	**$ 615,357**	**$ 1,431,258**	**$ 1,147,815**	**$ 3,194,430**	**$ -**	**$ -**	**$ -**	**$ 1,487,197**	**$ 1,147,815**	**$ 2,635,012**

Appendix B

Institutional Comparisons

Institutional Comparisons

Top 10 Public Medical Schools *(Primary Care) 2015 US News & World Report*: University of Washington, University of North Carolina-Chapel Hill, Oregon Health and Science University, University of California-San Francisco, University of Massachusetts- Worcester, University of Minnesota, University of Nebraska Medical Center, University of Michigan–Ann Arbor, Michigan State University (College of Osteopathic Medicine), University of Wisconsin–Madison.

5 Peer Institutions: Our peer group is called the Macy Schools. These are the schools initiated in this century and currently under study by the AAMC through a grant from the Macy Foundation. Of the 19 Macy Schools, the five listed below are most similar to USCSOMG in both the stage of their development and in their focus on innovative curriculum design based upon a close working relationship between the parent university and its affiliated delivery system.

- Oakland University William Beaumont School of Medicine
- Cooper Medical School of Rowan University
- Hofstra North Shore – Long Island Jewish School of Medicine at Hofstra University
- Virginia Tech Carilion School of Medicine
- Western Michigan University School of Medicine

Appendix C

Strengths and Accomplishments

Scholarship, Research, and Creative Accomplishments

- USCSOMG was accredited as a medical school on October 4, 2011. It was the only applicant medical school to achieve preliminary accreditation in 2011.

- The $59.5 million Health Sciences Education Building was designed to facilitate curriculum and promote inter-professional education. The facility includes a state of the art simulation center, simulated patient education areas, and health sciences library/academic support center (see **Attachment 1**), which will allow it to serve as a regional health science education resource. The building was completed on budget and ahead of schedule in time to welcome the inaugural class. The School was commended on its facilities and technology during the provisional accreditation in 2014.

- During the 2014-2015 Academic Year, the primary focus for USCSOMG was building curriculum. While most scholarly work from our Biomedical Sciences faculty during AY2014-15 was initiated prior to joining USCSOMG, several new projects are under review, in preparation or in process. We will focus on resources developing an operational and structural infrastructure that can support the kinds of research to which we are committed in our institutional goals and which were contemplated in the foundational agreement between the University and GHS. The hiring of campus scholars (including the two SmartState Chairs) is an important aspect of building the intellectual community at USCSOMG that will drive our long term research activities. In the course of fulfilling our institutional goals, we expect to establish significant research in health care services to include implementation science, comparative effectiveness, patient-centered outcomes research and quality improvement that are well supported by the thriving clinical practices on campus which we are developing as the focus of many of our clinical faculty. See **Attachment 2** for an explanation of the institutional setting of USCSOMG.

- GHS has established a goal of 200 peer reviewed scholarly products for the fiscal year of October 1, 2014, through September 30, 2015 **(See Attachment 9).** For the GHS Fiscal Year ended September 30, 2014, 209 peer reviewed journal articles, journal abstracts, books, and book chapters were published from the areas of GHS Cancer Institute/Institute for Translational Oncology Research, Care Coordination Institute, Emergency Medicine, Family Medicine, Internal medicine, Obstetrics-Gynecology, Orthopaedics, Pediatrics, Pathology, Surgery, Human Resources/Learning & Development, Institute for Advancement of Health Care Scholars, Nursing, Pharmacy, Rehabilitation (including Proaxis Therapy), and USCSOMG Biomedical Sciences.

- During the fall of 2014, the School undertook a strategic planning process. Interdisciplinary teams were formed around the areas of faculty, medical students, institutional setting, educational program, and educational resources.

The teams spent two months developing recommendations that will shape the coming years in the School's future. Among the issues discussed were:

- Pre-matriculation and bridge programs
- The educational continuum
- Faculty development
- Interprofessional education
- Diversity
- A shared academic health center

Summary reports from the planning teams may be found in **Attachment 8.**

Academic Health Center (USCSOMG and GHS) CME/CE Report (Fiscal Year Ended September 30, 2014):

Activities	Hours of Instruction	Physician Participants	Non-Physician Participants
89	1,262	5,356	1,697

Research Plan:

GHS is actively involved in a collaborative strategic planning process for academics that includes education and research. As a part of the GHS Academic Health System, USCSOMG is party to that process. For research infrastructure, USCSOMG faculty have the support of the USC Office of Sponsored Programs (OSP) as well as the GHS OSP office.

Five research cluster areas are emerging consonant with the overall direction of the Academic Health System. USCSOMG faculty will be encouraged to align their research interests and initiatives with one or more of the following clusters.

1. Health Services Research led by the GHS Care Coordination Institute (CCI) and under the aegis of the Institute for Advancement of Heath Care (IAHC). The IAHC is a key research entity for USCSOMG with a vision for "innovative research, training, and dissemination of discoveries promoting health and transforming health care delivery" and a mission to:
    a. Compare effectiveness of interventions and inform policy.
    b. Investigate patient centered models of care.
    c. Study methods to build workforce capacity.

    See **Attachment 3** for a list of IAHC scholars and Seed Grant awards. IAHC Scholars will serve as research mentors for students with an emphasis on health services research.

2. Oncology translational research within the following four programmatic pillars of ITOR:
    a. Phase I Clinical Research Unit with 20 clinical trials open at any given time (see **Attachment 4**).
    b. Biorepository as a component of the USC Cancer Center Tissue Bank (see **Attachment 5**).
    c. Innovation Zone and research laboratories (Selah, Kyatek, and NuBad).
    d. Clinical Genomics Center in association with Lab21 and anchored by a Life Technologies Ion Torrent next generation gene sequencer; GHS ITOR has been selected as one of the 10 initial global network partners to participate in Life Technologies' Genetic Care Interchange (GCI).

   Additional GHS oncology translation research opportunities are found in the 270 active oncology clinical trials at GHS; the Integrative Cancer Therapy Rehabilitative Science Program with active research proceeding in collaboration with Mark Davis, PhD; and the FACT-accredited Bone Marrow Transplant Program.
3. Orthopaedic and cardiovascular translational research in collaboration with the Clemson University BioEngineering Department on the GHS Patewood Campus (CUBEInc – See **Attachments 6 and 7**).
4. Education research to be developed as a collaborative initiative between USCSOMG, the GHS Center for Teaching and Learning (CTL), and the USC College of Education. The CTL provides resources to support the USCSOMG in the areas of faculty development opportunities, simulation education, strategic financial planning, student orientation, and assessment and evaluation. A focus of the CTL is to foster an environment that enhances academic experiences for learners on the GHS campuses.
5. Health Care Technology Cluster; to be developed.

Appendix D

Challenges

The primary challenge facing the USC School of Medicine Greenville at this time is securing philanthropy for the purpose of student scholarships. The original business plan for the School of Medicine Greenville set aside 10% of tuition dollars for student scholarships. During our initial three years of operations, it became apparent that 20% of tuition would be necessary to remain competitive with our peer schools and attract the best students. We have engaged both the USC Development Office and the GHS Institutional Advancement Office in raising money for scholarships. Additionally, we have contracted with the Health Philanthropy Services Group to develop an overall plan for philanthropy in the GHS Academic Health System. The results of this engagement are expected in April, 2015. We believe that access to adequate philanthropic funding for scholarships is the single biggest challenge facing the School and appreciate any and all efforts by both USC and GHS to ensure this funding.

Appendix E

Unit Statistical Profile

University of South Carolina - Columbia
Strategic Planning Stats

College/School: Medicine - Greenville (New as of Fall 2012)

**Applications	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Undergraduate	0	0	0	0	0
Masters	0	0	0	0	0
Certificate	0	0	0	0	0
First Professional	0	0	1,445	2,298	2,693
Doctoral	0	0	0	0	0
Total	**0**	**0**	**1,445**	**2,298**	**2,693**

**Admissions	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Undergraduate	0	0	0	0	0
Masters	0	0	0	0	0
Certificate	0	0	0	0	0
First Professional	0	0	83	89	82
Doctoral	0	0	0	0	0
Total	**0**	**0**	**83**	**89**	**82**

Student Headcount	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Undergraduate	0	0	0	0	0
Masters	0	0	0	0	0
Certificate	0	0	0	0	0
First Professional	0	0	53	106	188
Doctoral	0	0	0	0	0
Total	**0**	**0**	**53**	**106**	**188**

Majors	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Undergraduate	0	0	0	0	0
Masters	0	0	0	0	0
Certificate	0	0	0	0	0
First Professional	0	0	1	1	1
Doctoral	0	0	0	0	0
Total	**0**	**0**	**1**	**1**	**1**

Degrees Awarded	Fall 2009	Spring 2010	Summer 2010	Fall 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012	Summer 2012	Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014	Summer 2014
Undergraduate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Masters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Certificate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

FTE Students	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Undergraduate	0	0	0	0	0
Masters	0	0	0	0	0
First Professional	0	0	53	106	173
Doctoral	0	0	0	0	0
Total	**0**	**0**	**53**	**106**	**173**

Student Credit Hours*	Fall 2009	Spring 2010	Summer 2010	Fall 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012	Summer 2012	Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014	Summer 2014
Undergraduate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Masters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
First Professional	0	0	0	0	0	0	0	0	0	901	1,054	0	1,926	1,748	0
Doctoral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**901**	**1,054**	**0**	**1,926**	**1,748**	**0**

Tenure Track Faculty	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Professor	0	0	2	2	0
Associate Professor	0	0	1	1	1
Assistant Professor	0	0	0	0	0

Visiting Faculty	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Professor	0	0	0	0	0
Associate Professor	0	0	0	0	0
Assistant Professor	0	0	0	0	0

Research Faculty					
Professor	0	0	0	0	0
Associate Professor	0	0	0	1	1
Assistant Professor	0	0	0	0	0
Instructors	0	0	0	0	0
Lecturers	0	0	0	0	0

Clinical Faculty					
Professor	0	0	2	4	4
Associate Professor	0	0	3	6	6
Assistant Professor	0	0	3	4	5
Instructor	0	0	0	0	0
Adjunct Faculty	0	0	2	3	30

DISCLAIMERS

**Excludes continuing education, readmits, and non-degree graduate students

%Graduate test scores were excluded due to high percentage of missing test scores on USC database. Please see appropriate admissions office for scores.

*For student credit hours and FTE students by course acronym, see: www.ipr.sc.edu/credhours

For teaching faculty by ethnicity Fall 2010 click here: Fall 2010 Faculty by ethnicity
For teaching faculty by ethnicity Fall 2011 click here: Fall 2011 Faculty by ethnicity
For teaching faculty by ethnicity Fall 2012 click here: Fall 2012 Faculty by ethnicity
For teaching faculty by ethnicity Fall 2013 click here: Fall 2013 Faculty by ethnicity
For teaching faculty by ethnicity Fall 2014 click here: Fall 2014 Faculty by ethnicity

***For student credit hours with acronym by faculty type see link : www.ipr.sc.edu/credhours/factype/

For credit hours by undergraduate major taught by FT faculty or highest terminal degree see link: http://ipr.sc.edu/SACS/blueprints/354/

***For continuing education units (CEU's), please contact a departmental representative or view the CEU website: http://saeu.sc.edu/cec/

FALL 2014	ETHNICITY	Medicine (MD) Greenville
PROFESSOR	Not Available for This Semester	0
	Hispanic	0
	American Indian/Alaska Native	0
	Asian	0
	Black or African American	0
	White	0
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	0
ASSOC PROF	Not Available for This Semester	0
	Hispanic	0
	American Indian/Alaska Native	0
	Asian	0
	Black or African American	0
	White	1
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	1
ASST PROF	Not Available for This Semester	0
	Hispanic	0
	Asian	0
	Black or African American	0
	White	0
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	0
INSTRUCTOR	Not Available for This Semester	0
	Hispanic	0
	Asian	0
	Black or African American	0
	Hawaiian or Pacific Islander	0
	White	0
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	0
LECTURER	Not Available for This Semester	0
	Black or African American	0
	White	0
	Two or More Races	0
	N/R Alien	0

	TOTAL	0
DIST PROFESSOR	Hispanic	0
	White	0
	TOTAL	0
VISITING PROFESSOR	White	0
	N/R Alien	0
	TOTAL	0
VISITING ASST PROF	Not Available for This Semester	0
	Asian	0
	Black or African American	0
	White	0
	TOTAL	0
LIBRARIAN	Black or African American	0
	White	0
	TOTAL	0
INST/LIBRARIAN	White	0
	TOTAL	0
RESEARCH PROFESSOR	Asian	0
	White	0
	TOTAL	0
RESEARCH ASSO PROF	Hispanic	0
	Asian	0
	White	0
	Unknown	1
	TOTAL	1
RESEARCH ASST PROF	Not Available for This Semester	0
	Asian	0
	Black or African American	0
	White	0
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	0
CLINICAL PROF	Not Available for This Semester	1
	White	1
	N/R Alien	0
	TOTAL	2
CLINICAL ASSOC PROF	Asian	0
	White	1
	Two or More Races	0
	N/R Alien	0
	TOTAL	1
CLINICAL ASST PROF	Not Available for This Semester	0
	Hispanic	0
	Asian	0

	Black or African American	1
	White	0
	Two or More Races	0
	N/R Alien	0
	Unknown	0
	TOTAL	1
CLINICAL INST	Not Available for This Semester	0
	Black or African American	0
	White	0
	Unknown	0
	TOTAL	0
ADJUNCT	Not Available for This Semester	25
	Hispanic	0
	American Indian/Alaska Native	0
	Asian	0
	Black or African American	0
	Hawaiian or Pacific Islander	0
	White	4
	Two or More Races	0
	N/R Alien	1
	Unknown	0
	TOTAL	30
TOTAL		36

UNIVERSITY OF SOUTH CAROLINA - COLUMBIA
TOTAL STUDENT CREDIT HOUR PRODUCTION
FALL 2014

COLLEGE/SCHOOL	COURSE ACRONYM	Lower Division	Upper Division	Profess-ional	Grad 1 - Masters	Grad 2 - Doctoral	TOTAL
MED - Greenville	ANES	0	0	22	0	0	22
	EMED	0	0	14	0	0	14
	GMED	0	0	2552	0	0	2552
	TOTAL	0	0	2588	0	0	2588

UNIVERSITY OF SOUTH CAROLINA - COLUMBIA
TOTAL FTE STUDENTS
FALL 2014

COLLEGE/SCHOOL	COURSE ACRONYM	Lower Division	Upper Division	Profess-ional	Grad 1 - Masters	Grad 2 - Doctoral	TOTAL
MED - Greenville	ANES	0	0	1	0	0	1
	EMED	0	0	1	0	0	1
	GMED	0	0	170	0	0	170
	TOTAL	0	0	173	0	0	173

*Medicine - Greenville

**Faculty data generated by Fall 2014 Unofficial Employee file (yearly file)*

		1st Professional	TOTAL
RESEARCH ASSO PROF	GMED	216	216
	TOTAL	216	216
CLINICAL PROF	GMED	408	408
	TOTAL	408	408
CLINICAL ASSOC PROF	GMED	108	108
	TOTAL	108	108
CLINICAL ASST PROF	GMED	574	574
	TOTAL	574	574
NON-APPLICABLE	GMED	1142	1142
	TOTAL	1142	1142
TOTAL		2448	2448

Research by Principal Investigator

Brent Egan	$ 2,199,196
Renee LeClair	$ 76,843

Appendix F

Supplemental Attachments

Health Sciences Library
Annual Report 2014

GREENVILLE HEALTH SYSTEM

ghs.org

Overview

The Health Sciences Library's mission is to provide informational and educational resources supporting patient care, education, and research, furthering GHS' mission to heal compassionately, teach innovatively, and improve constantly. To this end, the library delivers services and resources to answer patient care questions at the point of clinical care; provides comprehensive literature reviews for process improvement and research; and offers unique educational opportunities to facilitate interactive learning. The Library serves all GHS staff and USC School of Medicine Greenville (USCSOMG) staff, students, and faculty with a library at Greenville Memorial Hospital, the Library Commons at USCSOMG, a special collection at Roger C. Peace Rehabilitation Hospital, and an archives facility at Patewood Administration Building.

With proper planning and creativity, the library accomplished many goals in accordance with its strategic plan. This Annual Report serves to highlight and summarize those accomplishments for 2014. Statistics contained herein will provide a snapshot of library resources and service usage for the year.

A message from the Library Director/Archivist, Fay Towell: As a physical space, the GHS Library is an oasis for many physicians, staff, students, and nurses who seek a place that will facilitate the best decisions for patient care, an enriched learning environment, and research for the future of medicine. In maintaining this space and its resources, the Library staff epitomizes the dream team: service-oriented, pleasant, creative, and willing to do what is asked of them and beyond.

Library Staff

GREENVILLE HEALTH SYSTEM

The Library Staff is comprised of 5 master's level librarians and 2 Library Assistants. This dedicated staff has more than 230 collective years of library work experience!

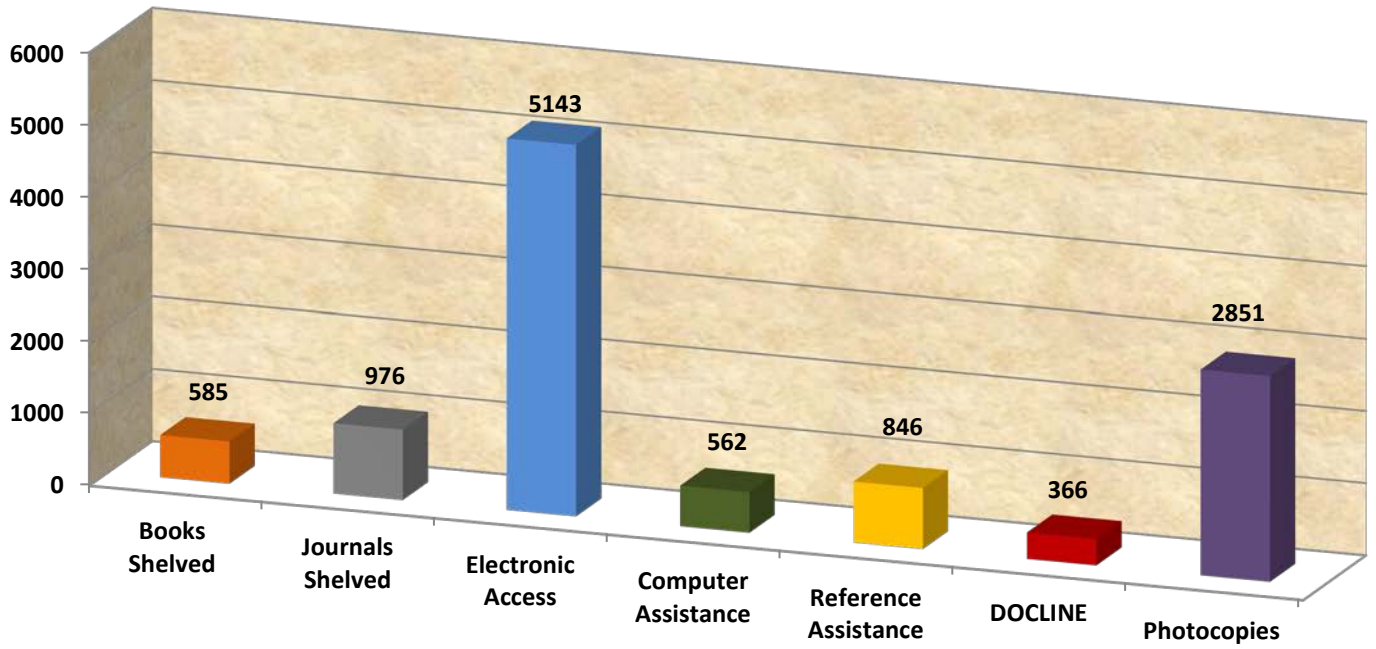
From left to right, front row:
Teresa Head, Library Assistant
Joye Edmonds, Librarian
Peggy Zabel, Librarian

From left to right, back row:
Loretta Westcott, Librarian
Fay Towell, Library Director/Archivist
Debbie Douglas, Senior Library Assistant
Deanna Handley, Librarian

Staff Assistance

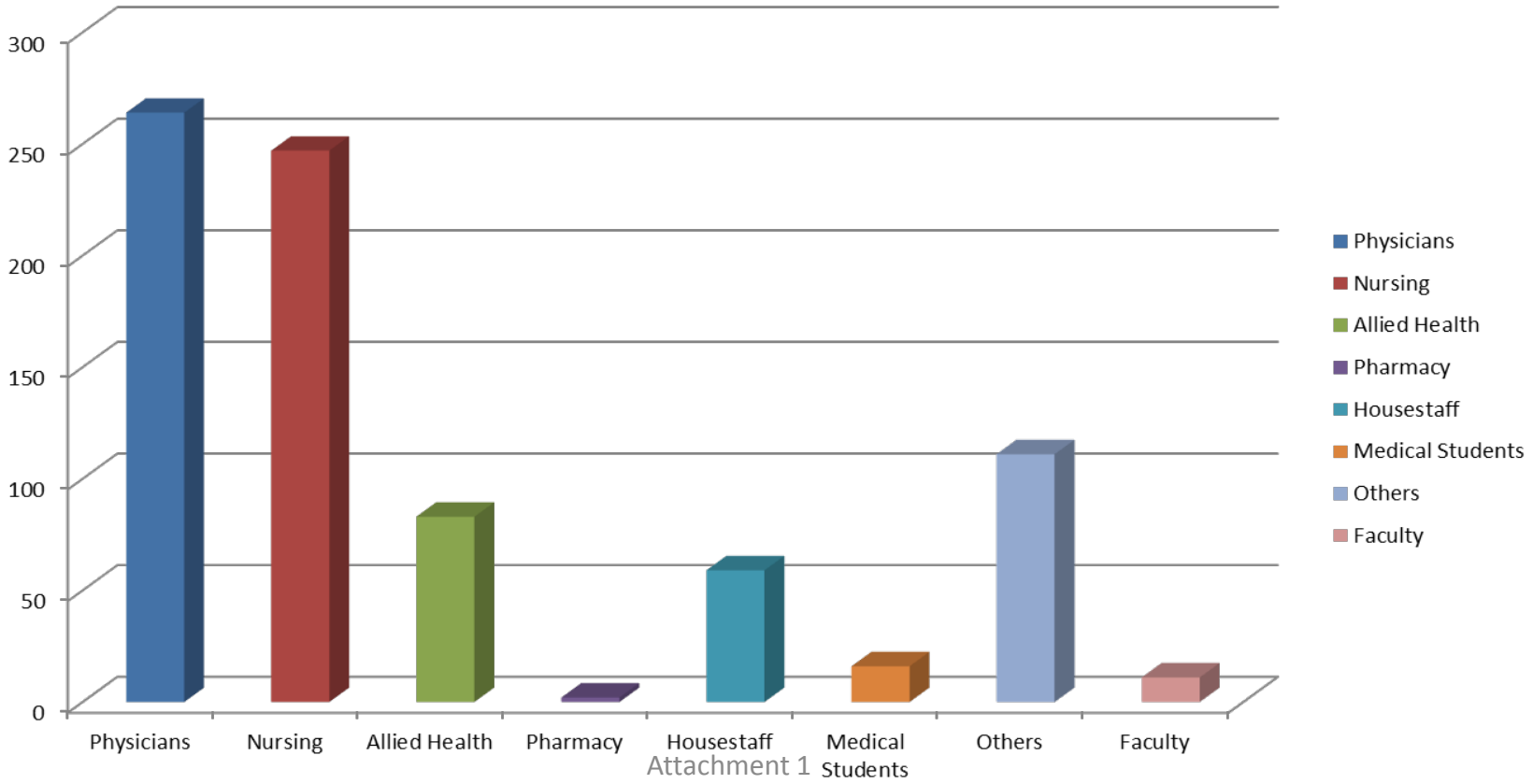
GREENVILLE HEALTH SYSTEM

Library Staff provides assistance to patrons in a variety of ways, including maintaining an organized collection of materials, answering questions that arise at the point of care, and gathering appropriate articles as requested. The chart below delineates some of the ways the library staff help GHS staff, faculty, and students with their information needs.



Search Requests

GHS staff, faculty, and students request searches to help answer clinical questions, keep abreast of the latest changes in the practice of medicine, conduct research for publication, establish policies and procedures, or support educational advancement. Comprehensive, multi-database searches offer researchers the opportunity to determine if they are the first to publish on a topic or to see the scope of published literature on a subject.



Attachment 1

The Library as a Physical Space

GREENVILLE HEALTH SYSTEM

In addition to providing a current collection of books and journals, the Library physical facilities also serve as places for staff and students to study, complete CBTs, conduct research, and receive help with Library resources.

GMH Library computers were upgraded by Information Services in 2014.

Twenty new carrels were added to the Library Commons to increase study/work space. A substantial increase of library usage has been noted since this addition.

Library E-Additions

GREENVILLE HEALTH SYSTEM

In keeping with the goal to offer a more robust collection of relevant, high-quality electronically accessible information resources, the Library added several products in 2014:

The Official ABMS® Directory OF BOARD CERTIFIED MEDICAL SPECIALISTS

This authoritative reference tool provides certification status and professional information about board certified physicians from the 24 Member Boards in more than 150 specialties and subspecialties.

ACCESS Pharmacy
Current Practices. Patient-focused Care.

As a resource with more than 30 pharmacy texts, this collection features “Quick Answers: Pharmacy” offering quick and easy access to drug therapy information for decision making in the clinical setting.

BMJ Case Reports

This vendor offers the largest single collection of case reports online with more than 9,000 articles from 70 countries. Case reports provide an opportunity to learn about an emerging disease, a new complication, or a previously unknown side-effect by being the first to share this information.

LWW Health Library

This product delivers content from more than 30 foundational books covering the basic sciences including anatomy, biochemistry, pathology and histology. Hands on videos and real-world cases are included as well.

Thieme

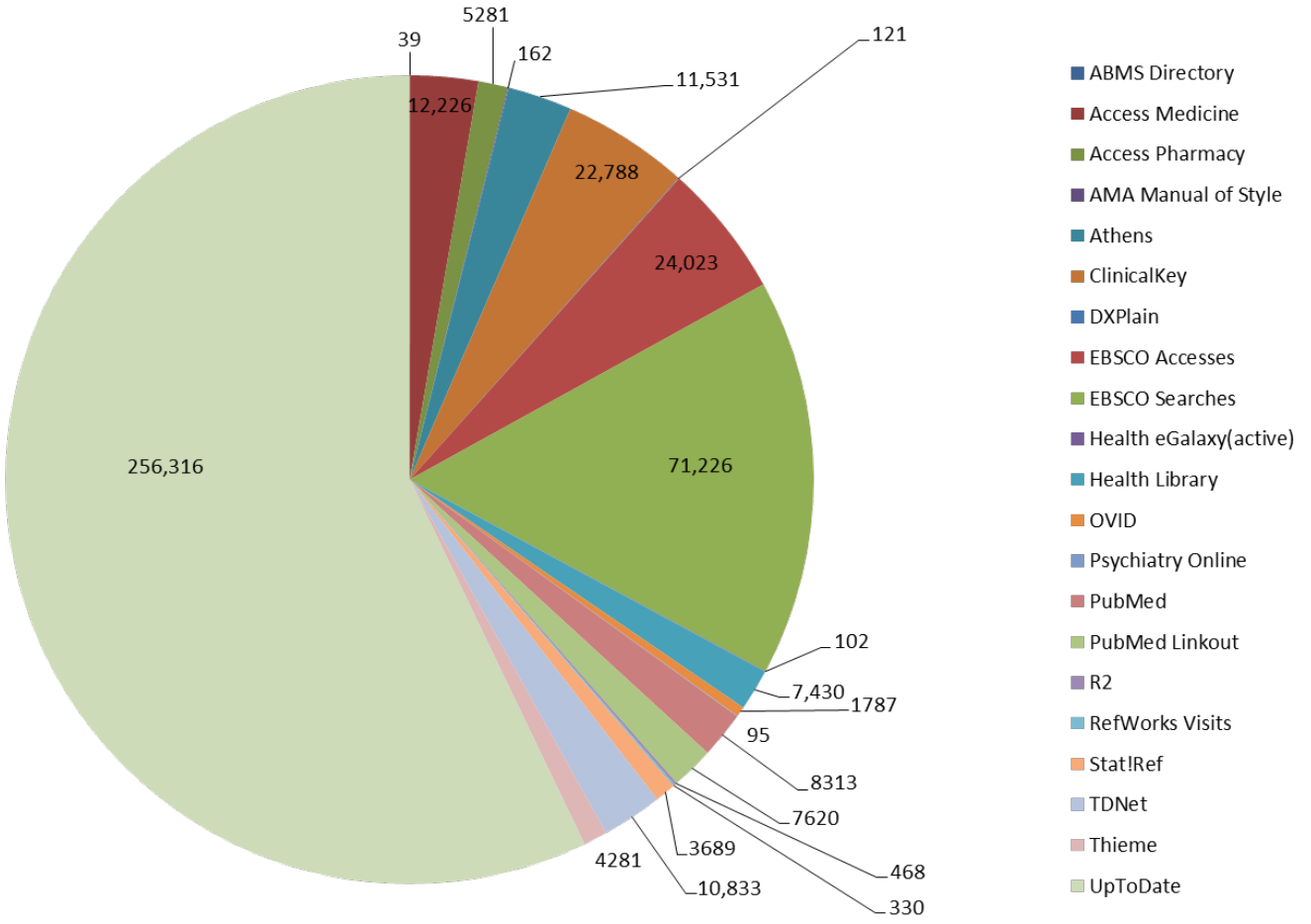
Thieme offers more than 70 image-rich, full-text downloadable books from the basic and clinical sciences, radiology, and anatomy.

Electronic Usage

GREENVILLE HEALTH SYSTEM

Highlights

- UpToDate led the way with the most robust usage with more than a quarter million accesses.
- EBSCO Research Databases and PubMed captured over 100,000 accesses and searches.
- The total count for all access and searches was nearly half a million. We expect to exceed this mark next year.

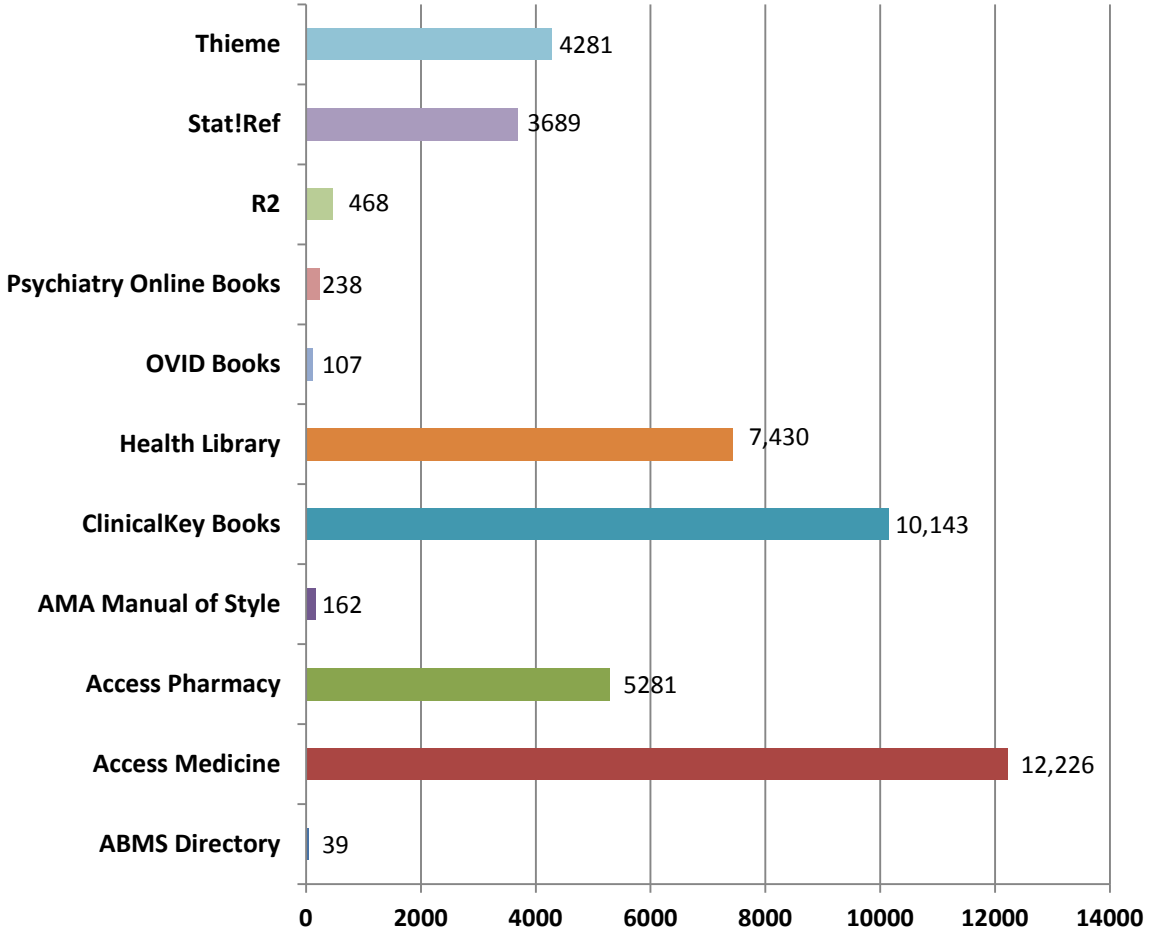


E-Books Usage

GREENVILLE HEALTH SYSTEM

Highlights

- Electronic texts are more popular than ever with library users due to the ability to read anytime, anywhere, on any device. E-Books were used over 44,000 times in 2014.
- Together Access Medicine and Access Pharmacy accounts for over 17,000 uses due to the number of Medical Students' textbooks available on these platforms.
- ClnicalKey offers a collection of over 1,000 clinical reference books. This contributes to the robust use of this resource and accounts for over 10,000 inquiries.

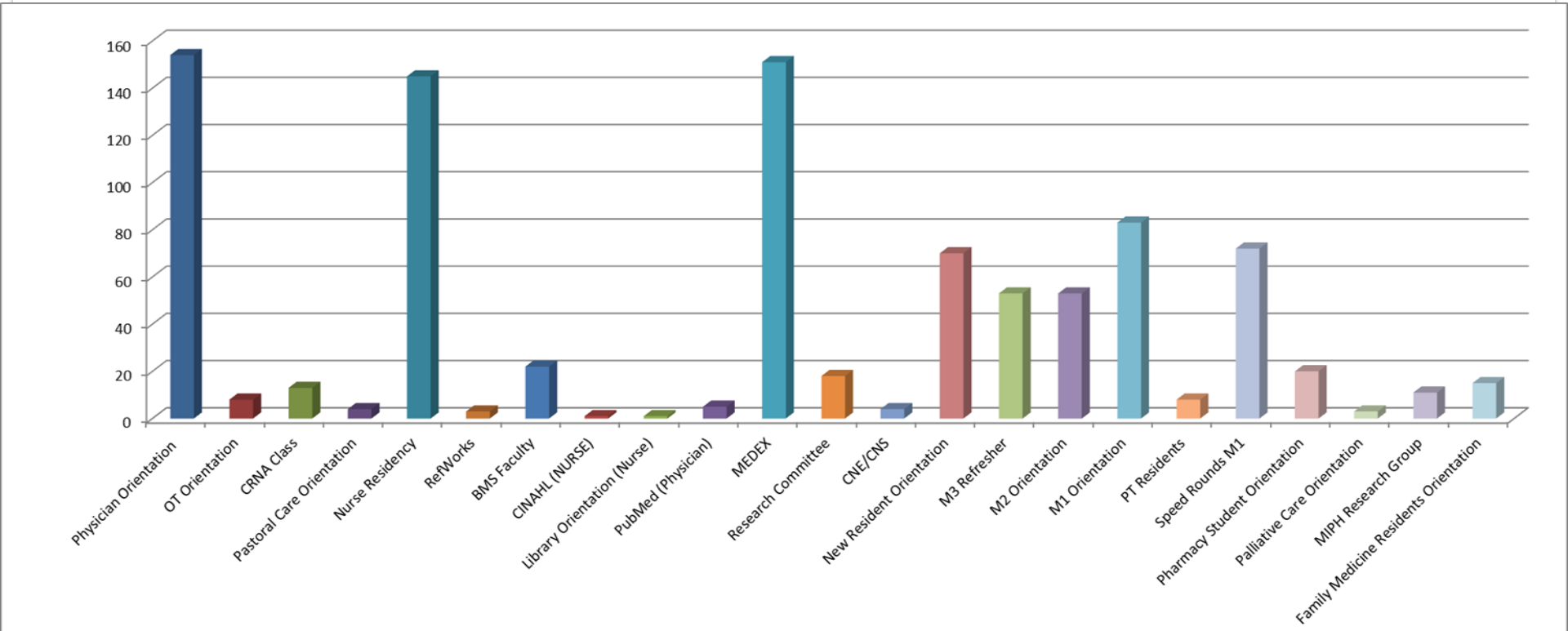


Learning Groups

(917 participants)

GREENVILLE HEALTH SYSTEM

Teaching students and staff accurate information-gathering techniques is an important goal for the library. With the myriad of choices available for seeking medical information, Librarians can assist patrons in the quest to find and properly use high-quality, peer-reviewed information sources. In 2014, staff taught over 900 individuals these important skills.



Special Educational Opportunities Enhance Learning

GREENVILLE HEALTH SYSTEM

In striving to teach innovatively, the Library offered unique learning opportunities in 2014:

March 2014: Presented a poster at Medical Education Research Day

August 2014: Library Speed Rounds (see next page)

October 2014: National Medical Librarians Month display in the employee pavilion and in the medical school included educational handouts and a puzzle

December 2014: BAGELS (Books and Great Electronic Library Sources) event offered coffee, bagels, and educational materials to update the medical students resource list

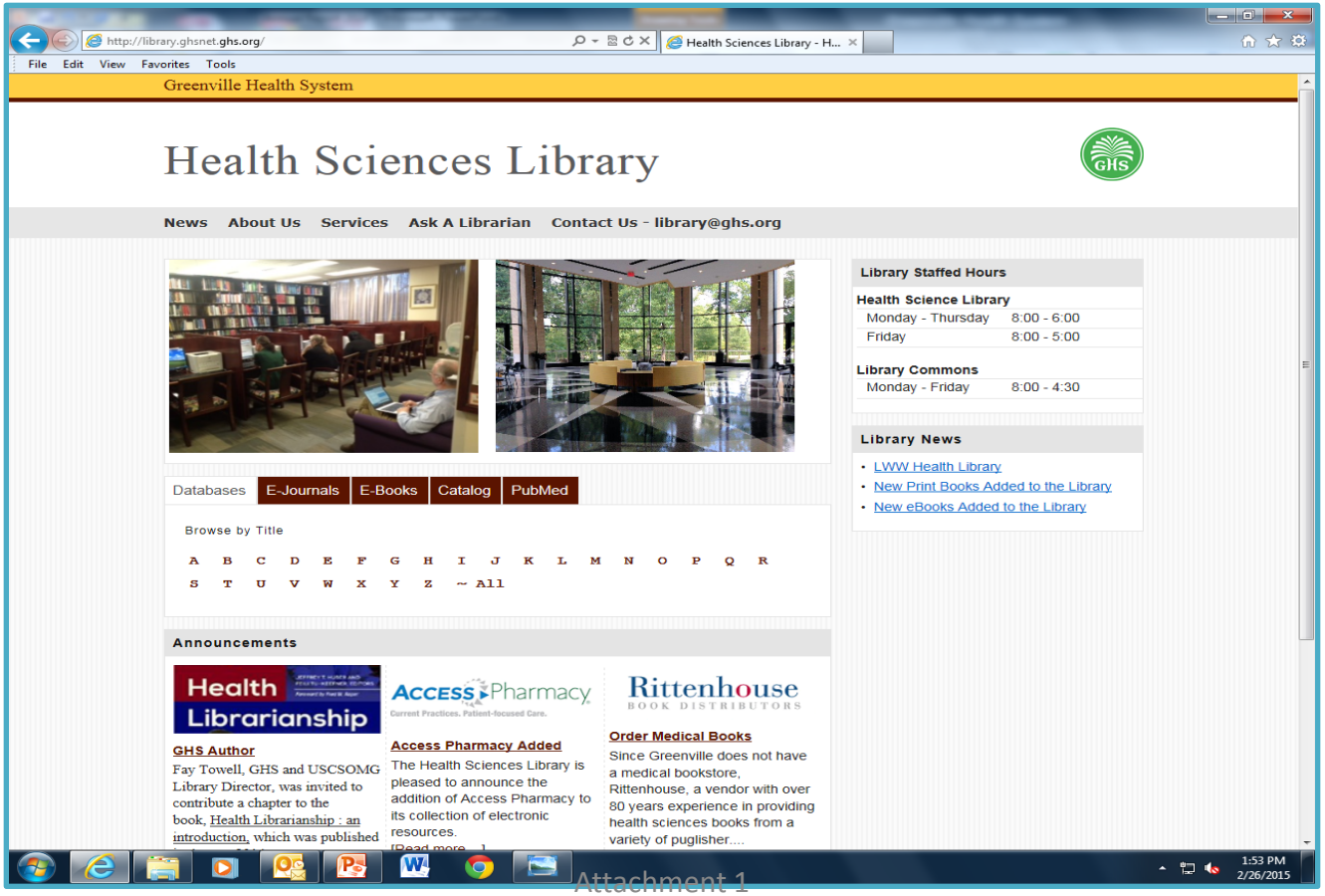
Library Speed Rounds

GREENVILLE HEALTH SYSTEM

Library speed rounds offered first year medical students a new way to learn about library services and resources. After a brief introduction to the library, groups of students switched rooms every 7 minutes to learn about a different library resource. Punch cards validated attendance and once filled, the student received a Dr. Bear stress ball and boxed lunch. More than 70 students participated in the event with extremely positive feedback. This event will be repeated in 2015.

New Library Website

The beta version of the new Library Website launched in October of 2014 and was fully functional January 2015. This redesigned website delivers an updated look, improved navigation, and expanded content. Searching for books, databases, and journals has never been easier and an intuitive interface provides meaningful results with fewer clicks.



Conclusion

GREENVILLE HEALTH SYSTEM

The year 2014 proved to be an exciting year of library growth. Many improvements were instituted to enhance Library service and resource offerings. The Library provided:

- 1,500 reference answers
- 8,400 journal articles
- 900 student & staff with instruction
- 448,000 accesses to library e-resources

Exponential growth of the System and a goal of academic achievement have increased Library utilization. With growing physician practices, the addition of Oconee and Laurens Hospitals, increased numbers of medical students, and the nursing degree requirement, the Library anticipates continued increases in resources, requests for library instruction, and service utilization over the next several years.

On the educational front, innovative learning opportunities afforded students and staff the opportunity to actively participate in the learning process. Individualized and group instruction gave everyone a chance to learn in a way tailored to their needs.

A look toward the future:

The Library's strategic plans include expanding available electronic resources and the development of LibGuides, links to subject-specific specialty resources.

USC School of Medicine Greenville

Institutional Setting

The Institutional Setting section of the LCME document articulates the mission, vision and guiding principles for the USCSOM Greenville. The ***vision*** is to transform health care for the benefit of the people and communities we serve; and the ***mission*** is improve the health of the people and diverse communities we serve by educating health professionals who will care compassionately, teach innovatively, and improve constantly. The USCSOM Greenville has resources via the GHS delivery system that strengthen the institutional support for faculty, students and administrators.

Specific institutional requirements that must be addressed are identified in the following sections:
IS-13. A medical education program must be conducted in an ***environment*** that fosters the intellectual challenge and spirit of inquiry appropriate to a community of scholars.
IS-14. An institution that offers a medical education program should make available sufficient opportunities for medical students to participate in ***research and other scholarly activities*** of its faculty and encourage and support medical student participation.
IS-16. An institution that offers a medical education program must have policies and practices to achieve appropriate ***diversity*** among its students, faculty, staff, and other members of its academic community, and must engage in ongoing, systematic, and focused efforts to attract and retain students, faculty, staff, and others from demographically diverse backgrounds.

The following GHS entities are in place to respond to these requirements and aligned with USCSOM Greenville guiding principles.

Ramage Center for Teaching and Learning (RCTL)

Guiding Principle: USCSOM Greenville will be integrated with all aspects of the ***GHS delivery system***.
Guiding Principle: USCSOM Greenville will utilize ***educational resources***, infrastructure and technology in a fiscally responsible manner, incorporating external resources in the education of health care students when advantageous.

USCSOM Greenville's graduates' learning experiences are integrated into the GHS delivery system. This health care environment equips students to address contemporary issues that challenge clinical care delivery such as variation in quality, inadequate access, and uncontrolled cost. Specific guiding principles listed above articulate the importance of aligning GHS via the ***Ramage Center for Teaching and Learning*** as a resource that integrates USCSOM Greenville with the delivery system.

Institute for Advancement of Health Care (IAHC)

Guiding Principle: USCSOM Greenville will graduate physicians who understand and participate in ***research*** that compares the relative clinical effectiveness and outcomes of various treatments.

The ***IAHC*** is a key research entity for the USCSOM Greenville with a vision for "innovative research, training, and dissemination of discoveries promoting health and transforming health care delivery" and a mission "to investigate patient-centered models of care; compare effectiveness of interventions and inform policy; study methods to build workforce capacity." IAHC Scholars will serve as research mentors for students with an emphasis on health services research.

Medical Experience (MedEx) Academy

Guiding Principle: USCSOM Greenville supports development of a health care workforce that reflects future societal needs and the ***diversity*** of the communities served.
Guiding Principle: USCSOM Greenville will educate physicians to be champions for patient safety, standardization, evidenced based care, and quality; responsible to the medical needs of their community; sensitive to the societal cost of medicine; activists for the education of the ***future health care workforce***; and practitioners that care for all patients regardless of race, social stature, or ability to pay.

The ***MedEx Academy*** is a substantial and growing pipeline to the USCSOM Greenville. While initial engagement has begun with numerous colleges/universities, plans are underway to establish strategic partnerships with historically black colleges and universities (HBCUs) in South Carolina and surrounding states. These partnerships will seek to cultivate interest in medical school among students at HBCUs, as well as offer guidance and assistance to HBCUs in preparing students for medical school. Initial discussions are underway with Furman University and Claflin University. Plans are to explore this model with USC Upstate and USC Regional Campuses.

GHS				
Name	**Email address**	**Department**	**Area of Research Expertise**	**Brief Description of Scholarly Interests**
Best, Robert	rbest@ghs.org	Biomedical Sciences/ Dean's Administration	Genetics, faculty governance, social/ethical/legal issues in emerging technologies, genetic counseling, screening	Healthcare transformation through medical education, genetics and genomics in medicine, philosophy and practice of medical laboratory diagnosis and communication of results, prevention/characterization of neural tube defects
Bethel, Susan	sbethel@ghs.org	Nursing Clinical Programs & Research	Nursing Practice	Use of research and evidence to improve patient outcomes affecting quality and safety; effectiveness of technology on nursing practice at the bedside; innovative methods for providing education for nurses and collaborative partners
Blackhurst, Dawn	dblackhurst@ghs.org	Quality Management	Epidemiology and biostatistics	Application of epidemiologic and biostatistical methods to the evaluation of programs and interventions aimed at improving clinical outcomes, patient safety, equity and cost-effectiveness of healthcare
Cass, Anna	acass@ghs.org	Quality Management	Epidemiology	Investigating questions raised in the course of clinical practice at GHS in collaboration with clinicians across specialty and discipline, partnered with my background in epidemiology as a field that seeks to understand the distribution and determinants of health conditions through systematic inquiry, has shaped my current scholarly interests. The opportunity to investigate research questions in a variety of disciplines and to teach and guide individuals through the research process has given me an appreciation for the varying types of research conducted within this system and has been personally rewarding. Additionally, conducting research out of the Quality Management department of the hospital system has focused my research perspective on seeking to answer questions regarding how to maximize the quality of healthcare delivery. As I work to develop my personal research agenda, I find myself drawn toward questions related to both clinical and social determinants of health as well as the investigation of ways that we can better provide health services for our population. At the same time, I am interested in addressing the challenge of adapting rigorous epidemiologic methods to those situations that do not fit the traditional model those methods were developed to address.
Coltman, Kinneil	kcoltman@ghs.org	Diversity	Health Equity, Health Disparities, Cultural Competence in Clinical Care, Diversity in Health Services Administration	Health Equity, Health Disparities, Cultural Competence in Clinical Care, Diversity in Health Services Administration
Crespo, Lynn	lcrespo@ghs.org	Medicine	Medical Education	Enhancing learning outcomes through innovative teaching and learning pedagogies, including use of technology, early clinical experiences, and interprofessional students teams. A primary focus is the importance of defining objectives, identifying cognitive level of learning, and determining outcome measures as criteria for selecting learning modality.
Higdon, Lee	lhigdon@ghs.org	OB/GYN UMG	Reproductive endocrinology/ infertility; also research development/study design/statistics	Improvement in cell culturing to benefit mammalian embryo production, education delivery systems, workforce development concepts
Hudson, Matthew	mfhudson@ghs.org	Academics	Health care system aptitude for Comparative Effectiveness Research (CER), Medical Decision Making, Behavioral Science	Identifying resources and novel methods facilitating CER, racial disparities research, chronic care improvement, enhancing shared decision making between patients and health care teams
Hughes, Mary	mhughes@ghs.org	Medicine - Division of Neurology	Multiple Sclerosis	Have been involved in a range of projects from pharmaceutical trials to investigator initiated trials in genetics, depression, wellness, patients centered core
Kelly, Desmond	dkelly@ghs.org	Pediatrics - Children's Hospital, Division of Developmental-Behavioral Pediatrics	Health Service Delivery	Earlier in my career I carried out descriptive research on attention and learning problems in children with hearing impairment. More recently I have published on survey results regarding workforce needs in developmental-behavioral pediatrics and been funded (Commonwealth Fund) to study a model of "Midlevel developmental-behavioral pediatrics assessment" and outcomes of a program to promote early identification of developmental delays (PRIDE - Duke Endowment).

Pham, Hiep	hpham@ghs.org	Division of Geriatrics and Palliative Medicine	Innovative interdisciplinary healthcare delivery and educational models based on intensive care integration and coordination.	Implementing and demonstrating efficiency and effectiveness of Holistic and Patient-Centered Interdisciplinary Team Based Care Models to targeted population of frail and vulnerable elders.
Picklesimer, Amy	apicklesimer@ghs.org	Obstetrics and Gynecology, Division of Maternal-Fetal Medicine	Prenatal care, preterm birth, breastfeeding, racial disparities in birth outcomes, access to care	My primary research focus relates to innovative models of prenatal care, specifically CenteringPregnancy group prenatal care. In our experience, group care has shown promise in reducing rates of prematurity, increasing rates of breastfeeding, improving patient education and satisfaction with care. We are also evaluating its role in medical student and resident education.
Reeves, Cara	creeves@ghs.org	Surgery/Pediatrics	Clinical/Pediatric Psychology	Prevention and treatment of pediatric obesity; factory associated with treatment compliance; psychological factors associated with obesity.
Russ-Sellers, Rebecca	rruss-sellers2@ghs.org	Office of Research Support/Department of Total Health	Health Policy	My research interests are aligned with the examination of models of care both as an influence and a response to system, state, and national health policy initiatives. Particularly, I am interested in exploring the influence of Total Health initiatives on access, cost, and improved clinical outcomes within a macro policy context.
Sease, Kerry	ksease@ghs.org	Pediatrics	Pediatric Obesity	Development of comprehensive treatment for pediatric obesity
Tobin, Brian	btobin@ghs.org	Biomedical Sciences	Diabetes, cardiovascular disease, insulin secretion, islet transplantation	1) Interdisciplinary research in nutrition science, nutritional determinants of human pancreatic islets of Langerhans and the interaction of endocrine, metabolic, and immunologic systems during pancreatic stress. 2) Interdisciplinary medical education programs focused upon the prevention and management of nutritionally-related metabolic diseases, such as diabetes, obesity, and cardiovascular disease.
Trilk, Jennifer	jtrilk@ghs.org	Biomedical Sciences		Physical activity and healthy lifestyle interventions for non-communicable diseases in pediatrics, adults, and geriatrics; assessing physician self-efficacy in prescribing exercise.

USC

Name	Email address	Department	Area of Research Expertise	Brief Description of Scholarly Interests
Adams, Swann	swann.adams@sc.edu	Epidemiology & Biostatistics and the College of Nursing (joint faculty appt)	Cancer epidemiology; health disparities; mammography; breast cancer	The vast majority of my work has focused on mammography and breast cancer disparities experienced by African American women. Specific areas of focus have included abnormal mammography follow-up time, breast cancer survival, and healthy lifestyle interventions.
Bennett, Charles	bennettc@sccp.sc.edu	Clinical Pharmacy and Outcomes Sciences		Identification of new ADRs; Human factors as a cause of medication errors.
Billings, Deborah	billindl@mailbox.sc.edu	Health Promotion, Education and Behavior	Maternal and women's health, sexual and reproductive health	Qualitative and quantitative research that examines innovative ways of delivering care, including prenatal care and overall sexual and reproductive health care. The impact of interventions that foster social support on women's health and maternal-child health.
Bookstaver, Brandon	bookstaver@sccp.sc.edu	Clinical Pharmacy and Outcomes Sciences	Infectious diseases; pharmacokinetics	Research areas focus primarily in the clinical arena to include hospital-acquired infections, specifically Clostridium difficile infections and central line associated bloodstream infections; antimicrobial lock therapy; antimicrobial dosing and clinical outcomes in obese adults and children; and antimicrobial stewardship outcomes. In addition, currently serving as PI of a statewide collaborative to develop a cumulative 5-year antibiogram.
Browne, Teri	browne@sc.edu	College of Social Work	Psychosocial barrier to health outcomes; health disparity	Psychosocial barrier to health outcomes; health disparity; transdisciplinary health teams; kidney disease; kidney transplant disparity; oral medication self management; chronic illness; quality of life; racialized context of health disparities research
Chen, Brian	bchen@mailbox.sc.edu	Health Service Policy and Management	Health economics, health policy, health law, health management	I am broadly interested in applying my econometric and legal analytical skills to translate empirical research findings in medicine to inform policy in chronic illnesses and pharmaceutical safety

Chou, Rita	rjchou@sc.edu	College of Social Work	Research methods (both quantitative and qualitative); Program and Practice Evaluation; Aging; Long-Term Care; Elder Support; Quality of Life; Older Workers	Health Disparities; Quality of Life; Psychological Well-Being of Older Adults; Elder Support; Caregiving; Older workers; Social Policy
Davis, Mark	markd@mailbox.sc.edu	Dept of Exercise Science, Arnold School of Public Health	Exercise Physiology/Immunology	Biological mechanisms of mental and physical fatigue, and the role of exercise in nutrition in prevention and treatment of infection and cancer.
Gillam, Pamela	gillamps@mailbox.sc.edu	Center for Health Services and Policy Research (CHSPR)	Quality improvement in Healthcare systems	Use of quality improvement methodologies to improve patient care. Relationship between organizational culture/change/readiness and use of QI methods. Interested in looking at use of QI to develop Accountable Care Organizations/Medical Homes.
Hale, Nathan	halen@mailbox.sc.edu	Health Service Policy and Management	Health services research, maternal and child health	Engaging in research focused on the organizational and management health care delivery systems and the impact on quality of care and outcomes among mothers and children.
Hock, Robert	roberth@sc.edu	College of Social Work	Autism Spectrum Disorders and Family Functioning	I am interested in developing and evaluating family system interventions for families who have members with an autism spectrum disorder. The focus of these interventions is to improve family adaptability as well as adherence to behavioral and medical interventions.
Pate, Russell	rpate@mailbox.sc.edu	Exercise Science	Physical activity and physical fitness in children	Exercise physiologist with interests in physical activity and physical fitness in children and the health implications of physical activity
Schulz, Richard	schulz@sccp.sc.edu	SC College of Pharmacy	Medication adherence, quality of life, pharmacoepidemiology	Examines how and why people take medicines, and tests interventions to improve adherence and outcomes
Sen, Souvik	souvik.sen@uscmed.sc.edu	Neurology	Stroke and Cardiovascular Epidemiology	1) Aortic arch atheroma and stroke; 2) Inflammation and stroke; 3) Stroke trials; 4) Alternative methods to test comparative effectiveness; 5) HIV and stroke
Turner-McGrievy, Brie	brie@sc.edu	Health Promotion, Education and Behavior	Nutrition, obesity, and chronic disease prevention and treatment through diet and physical activity	My current collaboration with GHS involves work with the Reproductive Endocrinology Department where we are exploring two different dietary approaches for managing PCOS and promoting weight loss among overweight women. Additionally, I have interests in using mobile technology to deliver health behavior interventions and exploring different diet approaches for diabetes and weight loss.
Wagner, Peggy	pwagner@ghs.org	Department of Family and Community Medicine, School of Medicine	Patient-centered care, health information technology, clinical practice change	Primary research interests include: innovations that improve patient-centered care; patient safety and quality, use of practice-based research networks for discovery and clinical practice redesign, elements of individual patient and physician behavior change, and health information technology innovations
Wu, Jun	wujun@sccp.sc.edu	College of Pharmacy	Health outcomes, medication adherence, pharmaceutical sciences	1) Develop patient-centered outcomes research relevant to medication use in disadvantaged populations to improve pharmaceutical health services. 2) Evaluate medication use and associated health and economic outcomes using large claims database to provide evidence to healthcare professionals and policymakers. 3) Develop novel drug delivery system using nanotechnology in chemotherapy to reduce adverse drug events and to improve drug effectiveness and patient quality of life.

CLEMSON

Name	Email address	Department	Area of Research Expertise	Brief Description of Scholarly Interests
Alley, Thomas	alley@clemson.edu	Psychology	Psychology and anthropology of food and eating	Food choice and avoidance; obesity; food neophobia
Britt, Thomas	twbritt@clemson.edu	Psychology	Organizational stress, mental health, and treatment seeking	Individual and organizational factors that promote employee resilience under stress, the determinants of whether individuals seek treatment for mental health problems before the problems require emergency care, recognizing mental health symptoms in combat veterans.
Brooks, Johnell	jobrook@clemson.edu	Campbell Graduate Engineering Program	Human Factors - Transportation & Aging	Enable population to drive as long as safely possible; development and integration of new clinical tools to aid mobility and transportion
Burg, Karen	kburg@clemson.edu	Bioengineering	Tissue engingeering, absorbable biomaterials	Interdisciplinary research initiatives with focus on personalized medicine; training students in interdisciplinary setting

Burg, Timothy	tburg@clemson.edu	Electrical & Computer Engineering	Robotics, Control Systems, Haptics, Education	Applying basic control theory to applications where computer monitoring and control could enhance performance of the system. One application is the use of computer control to apply an optimal dose of an anti-angiogenic treatment to shrink a tumor. The growth of vasculature and tumor co-develop in a nonlinear fashion and a standard, constant dose may not be the most cost effective or cheapest approach to shrink the tumor. A second project is the design of a heptic device, an interaction device to a comptuer game where the user "feels" the virtual world through sense of touch, to help train laparoscopic surgeons. Finally, I have been buildign a machine to build 3D cellular constructs (cell printing and biomaterials deposition) for tissue engineering applications.
Chen, Liwei	liweic@clemson.edu	Public Health Sciences	Study desin (cross-sectional study, cohort study and clinical trial) and data analysis (longitudinal analysis, survival analysis, complex survey design analysis, factor analysis, systematic review and meta-analysis, etc.	My primary research interests lie in nutritional epidemiology and chronic diseases prevention, including obesity, diabetes, hypertension, and cardiovascular diseases. My specific interests are: - Dietary approaches as a means to prevent and manage chronic diseases - Optimal strategies for identification of individuals at high risk of diabetes and cardiovascular diseases - Systematic reviews and meta-analysis for evidence-based medicine - Comparative Effectiveness Research (CER) - Electronic Health Information/Electronic Medical Records (EHI/EMR)
Daily, Shaundra	sdaily@clemson.edu	School of Computing	Affective (Emotion recognizing) Computing; empathy development; K-12 education outreach	Understanding physiological response to interventions; virtual worlds; project-based learning environments; physician-patient relationships
Desjardins, John	jdesjar@clemson.edu	Bioengineering	Orthopaedic Biomechanics, Rehabilitation, Biomaterials	Dr. DesJardins received his Ph.D. in Bioengineering from Clemson University in December 2006, and he has worked for over 20 years as a biomechanical research engineer. He has co-authored over 150 peer-reviewed conference or journal publications in the areas of biomechanics, biomaterials tribology, engineering education and mechanical testing, and he directs the Laboratory of Orthopaedics Design and Engineering on the main campus of Clemson University. He currently leads or is a co-PI on multi-disciplinary research teams funded through NASA, DoT, NSF, the Gates Foundation, biomedical industry and other regional non-profit foundations. His research interests lie in Orthopaedic Biomechanics, physical rehabilitation and sports engineering, total joing biomaterials, biomedical device design and total joing biomechanics.
Duggan, Lisa	duggan@clemson.edu	School of Nursing	Women's Health, Obstetrics/Gynecology	I have been involved in research with GHS for several years both with nursing students and physicians. My areas of interest include: women's health, vulnerable populations, birth outcomes, needs and care; prenatal care, maternal transitions and adaptations both physical and psychosocial; infant health and bonding; and policy related to maternal/child health. I have just begun my career as a researcher, recently graduating from the University of South Carolina with a PhD in Nursing. I also obtain a Graduate Certificate in Women's Studies while pursuing my PhD. I have presented poster and podium presentations locally and have recently been invited to present at the Internataional Congress of Women's Health in Bangkok Thailand in November of this year. My presentation will be concerning my recently completed research at the OB Center at GHS concerning maternal transitions in vulnerable populations.
Dye, Cheryl	tcheryl@clemson.edu	Public Health Sciences	Chronic disease self-management and health promotion of older adults	Use of health coaches to promote chronic disease self-management and lifestyle changes.
Eggert, Julia	jaegger@clemson.edu	School of Nursing	Geriatrics; Genetics; Oncology	Impact of simple early life experience interventions on cognition in the elderly; Engagement in LTC; Healthcare genetics (HCG) as it relates to healthcare provider and patient literacy; Healthcare genetics molecular translation to the bedside/environment/prevention.
Fredendall, Lawrence	flawren@clemson.edu	Management	Operations Management / Process Flows	Scheduling, inter-departmental coordination, implementing quality improvement, lean operations, using technology to improve quality and process flows in clinical and non-clinical departments.
Granberg, Ellen	granber@clemson.edu	Sociology & Anthropology	Obesity & Weight Loss; Mental Health	1) Social, self, and identity impacts of sustained weight loss; 2) Body image and self esteem among African American girls; 3) The impact of racial discrimination on health and mental health.

Haley-Zitlin, Vivian	vivianh@clemson.edu	Food, Nutrition and Packaging Science		
Hoover, Adam	ahoover@clemson.edu	Electrical & Computer Engineering	Tracking, embedded systems	Obesity; automated tools for measuring energy intake
King, Bruce	bking2@clemson.edu	New per Windsor 2/7/13		
Kowalski, Robin	rkowals@clemson.edu	Psychology	Bullying/Cyberbullying	Previously I conducted research in the area of organ donation as well as cervical cancer screening. Currently, I do research on bully/cyberbullying among youth and adults. This research also looks at prevention and intervention efforts. Finally, I conduct research in the area of sports psychology.
Kwartowitz, David	robodoc@clemson.edu	Bioengineering	Medical Imaging, Image-processing, and image-guided procedures	My current interests include the development of new medical technologies and procedures using medical imaging as the basis for navigation, visualization, and diagnostics. Within this work, we are exploring ways of reducing the need for ionizing radiation while maintaing minimal collateral damage to health tissues, through computing and image processing.
Mayo, Rachel	rmayo@clemson.edu	Public Health Sciences		
McCubbin, James	jmccubb@clemson.edu	Psychology	Cardiovascular Disease, Hypertension, CHD, Diabetes	I am currently studying changes in CNS and autonomic function in the early stages of development of essential hypertension. I also study mechanisms of acute and chronic pain sensitivity.
Mroz, Tom	tmroz@clemson.edu	Economics	Health and demographic economics; labor economics	Analysis of intervention programs and statistical analysis
Neyens, David	dneyens@clemson.edu	Industrial Engineering	Patient Safety and Quality, Human Factors, Driver Safety	Assessing patient safety and quality improvement projects that lead to more effective and safer experiences for patients
Parker, Veronica	veronic@clemson.edu	School of Nursing	Health disparities/inequities; obesity & obesity related illnesses; asset mapping; community-based and faith-based initiatives/interventions	My interests involve the conduct of cutting edge research focusing on chronic conditions and the dissemination of findings, thereof, that promote health in an effort to improve health care and health outcomes among populations and sub-populations of people. I have a particular interest in the reduction and ultimare elimination of ill health conditions that disproportionately plague a vairety of sub-groups of individuals in the state and in the nation.
Pilcher, June	jpilche@clemson.edu	Psychology	stress, fatigue, sleep deprivation, sleep habits	My research examines the effects of stress and fatigue on performance, social functioning, health, and well-being. My sleep deprivation research simulates shiftwork and provides information on how persons perform while working at night. I'm interested in the effects of sleep habits and shiftwork in health-care settings and their effects on the health-care practitioner and the patients.
Pury, Cynthia	cpury@clemson.edu	Psychology	Positive Psychology, Emotions, Subjective Experience	I am developing an empirically-based psychological theory of courage and using it to develop assessments and interventions. I am also developing taxonomy of situational factors that influence behavior in a wide range of settings; we envision this as a complement to the Big 5 model of personality.
Rodriguez, Joy	rodrig7@clemson.edu	Industrial Engineering	Human Factors (i.e., Macroergonomics) in Healthcare	I study the interactions clinicians have with each other and with their patients keepint in mind the organizational and environmental context in which they work in. These interactions include, but are not limited to, communication, problem solving, teamwork, decision making, etc. I also study how these interactions are affected (in both positive and negative ways) by Health Information Technologies. The end goal is to redesign the system to make clinicians work easier and more efficient, all while increasing the quality of patient care and patient and worker safety.
Sherrill, Windsor	wsherri@clemson.edu	Public Health Sciences	Health services evaluation, medical education, health care finance	health delivery system structure and innovation, medical education and physician executive education, cultural competence and impact on health disparities
Shi, Lu	lus@clemson.edu	Public Health Sciences	Behavioral economics, health communication, quantitative methods	Long-term model-based evaluation of health intervention for a given population; Modeling population health trends and individual health behavior, especially interested in the state of human mind when a health-related decision is made.
Smith, Kelly	kcs@clemson.edu	Philosophy & Religion	Bioethics, Philosophy of Medicine	Ethics education and assessment, empirical studies of ethical reasoning

Taaffe, Kevin	taaffe@clemson.edu	Industrial Engineering	Patient flow, OR capacity planning, scheduling, staffing, data-driven decision making	I have been conducting health care-related research to improve the ability of a health care facility to provide quality care, paying special attention to the logistics of enabling staff to accomplish their tasks with minimal delays. I have also investigated the use of engineering management intervention tools to enhance the communication and coordination I have been conducting health care-related research to improve the ability of a health care facility to provide quality care, paying special attention to the logistics of enabling staff to accomplish their tasks with minimal delays. I have also investigated the use of engineering management intervention tools to enhance the communication and coordination of medical staff by understanding the impact of various actions that cause ripple effects in the system and lead to patient and surgeon delays. Please see the Working Papers section of my CV for the pipeline of current health care-related research contributions.
Truong, Khoa	ktruong@clemson.edu	Public Health Sciences	Statistics, modeling, cost-effectiveness analysis, economic impact evaluation, and research design	Healthcare delivery systems, treatment modalities, healthcare costs and benefits, preventive healthcare, and health policies
Van Puymbroeck, Mariake	mvp@clemson.edu	Parks, Recreation & Tourism Management	Complementary and Alternative Medicine Interventions, Rehabilitation, Neurology, Geriatrics	I am interested in the therapeutic use of yoga to improve functional outcomes and well-being in a variety of populations.
Whitcomb, John	jwhitco@clemson.edu	School of Nursing	Critical Care, Resusitative Outcomes, Ethics, Military Nursing, Leadership	I support the learning, knowledge, and professional development of nurses committed to making a difference in health world wide and advance quality nursing education that prepares the nursing workforce to meet the needs of diverse populations in an ever changing healthcare environment. I have demonstrated this as evidence by publications in scholarly journals such as Nursing Research, Advances in Nursing Science and Critical Care Nursing Clinics of North America. I have presented locally, nationally and internationally in such places as Belfast Ireland, Yokosuka Japan and Montreal Canada. My commitment to lifelong learning has led to many opportunities where I have been able to make a difference for nursing worldwide. I am a Fellow of Critical Care Medicine (FCCM) becoming the 3rd nurse in South Caroline to hold this distinction.
Zinzow, Heidi	hzinzow@clemson.edu	Psychology	trauma-related mental and physical health outcomes: risk factors, PTSD, substance use, marginalized populations, military, clinical interventions, health service-seeking	I would like to collaborate on projects that involve identifying and connecting trauma victims with needed mental health and medical services. I would also be interested in developing and evaluating interdisciplinary interventions that allow medical providers to identify and address trauma-related mental health needs. Trauma victims are often more likely to seek medical care than mental health treatment; therefore, medical clinics represent important points of entry into the healthcare system. Furthermore, trauma victims frequently suffer comorbid medical and psychiatric diagnoses and would benefit from improvements in interdisciplinary care. I am particulary interested in research that focuses on racial/ethnic minorities, women, sexual assault victims, and individuals who have lost a loved one to homicide.

IAHC Seed Grants 2014

Principal Investigator and Project Dates	Research Team Members	Project Title and Description	Amount
David Martin 1/1/2014 – 12/31/2015	Shannon Harris B. Rae Cho, PhD Joel Greenstein, PhD	**Applications of Lean Six Sigma to Healthcare Operations at Greenville Hospital System** - The primary objective of this project is to develop a fully integrated, customized, research-based Lean Six Sigma curriculum for application at GHS.	$25,000
Lawrence Fredendall, PhD 8/25/2014 – 7/1/2015	Lynn Ethridge	**Standardization of pharmacy order sets: Management and process analysis** – seed grant funding to support a graduate student to work on this pharmacy initiative.	$15,000
Anne Kinsman, PhD 9/1/2014 – 8/31/2015	Desmond Kelly, MD Frederick List, PhD Ronnie Horner, PhD Jane Roberts, PhD (Consultant)	**The Utility of the STAT (Screening Tool for Autism in Toddlers) Administered by Mid-Level Clinicians in the Early Diagnosis of Autism Spectrum Disorder** – a pilot study to evaluate the efficacy of a clinical model designed to utilize a standardized second-level screening test to identify and diagnose children with autism spectrum disorder (ASD) at an early age in order to expedite their eligibility for evidence-based behavioral interventions.	$30,000
David Neyens, PhD 9/1/2014 – 8/31/2015	B. Rae Cho, PhD	**Developing a GHS Control Chart Methodology** - a training program to implement and use control charts in various aspects of operations at Greenville Health System.	$28,000
Meenu Jindal, MD 9/1/2014 – 8/31/2015		**Improving Colorectal Screening Adherence through Adaptive Choice** – a pilot project to assess preferences for colorectal cancer screening in a diverse patient population through a series of focus groups; and derive personalized preferences for a colorectal cancer screening modality through adaptive choice-based conjoint analysis using the focus group data to guide the array of choices.	$15,000
Marissa Shuffler-Porter, PhD 9/15/2014 – 9/14/2015		**Dissemination of Conscious Leadership Principles throughout Greenville Health System and Management Staff –** research regarding conscious leadership development and evaluation.	$30,000
TOTAL SEED GRANT FUNDING			***$143,000***

ITOR

Institute for Translational Oncology Research

Greenville Health System Clinical University Research Cluster

Executive Update – 5 Major ITOR Pillars:

CLINICAL RESEARCH UNIT

- With 39 active drug trials underway, ITOR's nationally prominent phase I clinical research unit continues to serve as a top site for multiple pharmaceutical partners to develop leading-edge cancer drugs.
- There are current trials available for Solid Tumors (including *AMG 820, a First in Man Trial*), Bladder, Breast, Colon, GI, Leukemia, Lung, Lymphoma, Melanoma, Multiple Myeloma, Myelodysplasia, Ovarian, Pancreas, Prostate, and Renal cancers.

BIOREPOSITORY

- With 4 full-time employees and a universal consent in place for all patients of GHS to have the option of donating excess tissue for research, ITOR's rapidly growing biorepository continues to make significant strides. It is a critical component of the GHS Clinical University's research infrastructure that helps attract pharmaceutical and biotechnology companies interested in developing the next generation of cancer therapies.
- Hundreds of tissue samples have been collected over the past year with rigorous guidelines for processing and clinically annotating frozen tissue, fresh tissue, and peripheral blood – including flash freezing in liquid nitrogen within 15 minutes of harvest to maximize cell viability for basic science research.
- A major Biorepository achievement over the past 6 months has been the introduction and full implementation of Freezerworks tissue sample management software.

CLINICAL GENOMICS CENTER

- The Selah Clinical Genomics Center at ITOR represents the first advanced genetic test developed, validated, and employed in a clinical setting in South Carolina to empower oncologists to tailor specific treatment plans based on the particular molecular profile of each patient's cancer.
- A unique multiplex biomarker panel trademarked as *PrecisionPath* – which addresses the paradigm-shifting redefinition of the classification of cancer – has been collaboratively developed by Selah with clinical guidance from GHS oncologists. It is currently being utilized at GHS, with onsite molecular profiling available to GHS cancer patients, and is built on Life Technologies' new Ion Torrent Personal Genome Machine. To date, *PrecisionPath* has been performed on six common cancers: non-small cell lung cancer, breast cancer, colon cancer, ovarian cancer, pancreatic cancer and melanoma.

INNOVATION ZONE

- The ITOR Innovation Zone represents a unique physical convergence of clinicians, industry and academic researchers – and is fostering multiple collaborative research initiatives, development of new diagnostic tools for cancer, and the early development of new cancer drugs. The Innovation Zone includes more than 20,000 square feet of world-class laboratory space, and provides a home to multiple private sector research collaborators (including Selah Genomics, KIYATEC, and NUBAD), GHS physician researchers, and faculty researchers from the University of South Carolina School of Medicine-Greenville and Clemson University. Utilization of the high demand space is approaching 90% with additional research tenants currently under development.
- Among the successful research projects that have been achieved by ITOR collaborators in recent months is KIYATEC's NCI contract to establish predictive 3D breast cancer models. The contract was awarded under the SBIR Program to establish patient-derived samples in real time to assist clinical decision-making.

RARE TUMOR CENTER

- On March 4th, 2014, ITOR's "5th Pillar" was announced with the launch of the ITOR Rare Tumor Center – which represents the first such center in the US dedicated exclusively to the research and treatment of rare cancers (which affect one in five cancer patients).
- The announcement was highlighted by the formation of a strategic alliance with Boston-based Foundation Medicine (that will co-sponsor a major research study at the Rare Tumor Center over the next 18-months), and a $1 million dollar gift from local philanthropist, Jerry Dempsey.
- Through the unique partnership between GHS, Foundation Medicine, and Selah Genomics, patients will gain access to sophisticated genomic testing that may help determine relevant treatment options or clinical trials based on their unique molecular profiles.

ITOR MONTHLY TREND REPORT
FY15

CRU Enrollment

Trial Sponsor	FY14 Enrollment Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY15 Enrollment Total
Independent	53	4	4	7	3	2								20
USO	37	0	0	0	0	0								0
Total Enrollment	**90**	**4**	**4**	**7**	**3**	**2**								**20**

CRU Referrals

Referral Source	FY14 Referral Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY15 Referral Total
ITOR MDs	85	6	5	1	1	4								17
GHS Oncologists	115	3	11	5	4	10								33
Outside GHS	49	0	0	1	1	2								4
Total Referrals	**249**	**9**	**16**	**7**	**6**	**16**								**54**

Rare Tumor Center Referrals

Patients referred each mo.	FY14 Referral Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY15 Referral Total	Overall Totals
	25	4	5	2	4	12								27	52

Biorepository Projects

Sponsor	Overall Volume thru FY14	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY15 Total Volume	Overall Totals
Tissue Bank Data	950	39	27	141	27	49								283	1233
Caris Registry	152	0	1	0	0									1	153
Foundation One Registry Follow-Ups	24	3	5	5	3									16	40
TCGA Follow-Ups	17	6	5	0	3									14	31
Total Enrollment	**1143**	**48**	**38**	**146**	**33**	**49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**314**	**1457**
New Patient Surgeries Tissue Banked	602	30	43	18	42	35								168	770
New Patient Blood Banked	904	68	71	49	69	58								315	1219
DecisionQ Specimen Acquisition and Transfer	30	0	0	0	0	0								0	30
PrecisionPath Specimen Acquisition and Transfer	179	0	20	10	50	10								90	269

ITOR Study Revenue

	FY14 Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY15 Total
USO Trials	$ 251,315.00	$ 9,051.00	$ 81,747.50	$ -	$ -	$ 10,467.00								$ 101,265.50
Independent Trials	$ 703,286.17	$ 47,872.80	$ 17,561.10	$ 27,728.25	$ 125,778.10	$ 38,962.50								$ 257,902.75
Biorepository Services	$ 30,960.00	$ 2,460.00	$ 750.00	$ -	$ 11,830.00	$ 750.00								$ 15,790.00
Total Revenue	**$ 985,561.17**	**$ 59,383.80**	**$ 100,058.60**	**$ 27,728.25**	**$ 137,608.10**	**$ 50,179.50**								**$ 374,958.25**

CUBEInC

Clemson University Bioengineering Innovation Campus

Greenville Health System Clinical University Research Cluster

Executive Update:

CUBEInC

- Clemson University's Bioengineering Innovation Campus (CUBEInC), located on a 30,000+ sq ft floor on GHS' Patewood Memorial Campus in Greenville, SC, is recognized as one of the GHS Clinical University's four formally defined research clusters.
- CUBEInC shares space adjacent to GHS orthopaedic surgeons, the GHS Institute for Vascular Health, and the Orthopaedic Research Foundation of the Carolinas.
- CUBEInC provides a unique platform for the training of a highly qualified biomedical workforce of the future, and focuses on the development of clinically-driven technology and treatment methods, and health system optimizations practiced with an intent to assist clinicians for improved healthcare delivery.
- CUBEInC and Clemson University's Bioengineering Department represent a top technology pipeline for GHS – with multiple new technologies actively under development, and being patented, as a result of research collaborations and co-invention between Clemson researchers and GHS clinicians.
- Michael J. Gara has been CUBEInC's Director of Technology Development since 2013, bringing a wealth of experience to CUBEInC's mission of developing high-impact medical technologies and devices for disease management and the transfer of technologies from bench to bedside. Most recently, Mr. Gara was director at the Wallace H. Coulter Foundation, where he was involved in managing translational research programs in biomedical engineering at major universities across the US.
- Industry partners are invited to team-up with CUBEInC for the overarching purposes of education, innovation and development – and additional private sector companies, Med-Ally and BioD have finalized sublease agreements with GHS and Clemson to occupy leading-edge incubator space within CUBEInC.

Recent Achievements

- (*July 2014 Announcement*) Clemson University has been awarded an unprecedented $11 million in NIH funding to expand a bioengineering center that helps mentor junior faculty members as they research how lab-grown tissue can treat some of the world's most debilitating diseases, ranging from heart disease to spinal cord injuries. This represents the largest NIH grant received in the University's history. Scientists expect the program will encourage an upward spiral that leads to more research dollars and helps boost the state's growing medical-technology industry. Much of the center's research will be done at the cutting-edge CUBEInC campus.

- (*September 2014 Announcement*) Three Clemson startup companies created by CUBEInC faculty, Dr. Vertegel and Dr. Vyavahare, have each received $25,000 in seed

money from the University Sponsored Application Program (USAP) offered by SC Launch. The three companies, VRM Labs LLC, ConnectTiss LLC and Additive Drug Delivery LLC are located in South Carolina's Upstate and have licensed or optioned Clemson-owned intellectual property as the basis for their company.

CUBE INC (GHS/Clemson)				
Name	**Email address**	**Department**	**Area of Research Expertise**	**Brief Description of Scholarly Interests**
Alexis, Frank	falexis@clemson.edu	Laboratory of Nanomedicine	Polymeric Nanoparticles, Targeting, Controlled Release	Biodegradable Polymers - Design and synthesize advanced polymers; Polymer-drug conjugates; High-throughput synthesis / Targeted Drug Delivery - Nanoparticle in the biological environment; therapeutic applications; Imaging applications / Nanoparticles - Hybrid nanoparticles; multifunctional nanoparticles
Benson, Lisa	lbenson@clemson.edu	Engineering and Science Education	Student Motivation, Engineering Problem Solving, Biomechanics	Student Motivation - Retention, major, and learning; Engineering problem solving; Assessment methods / Active Learning - classroom activity design; Tablet PCs; First-year engineering / Human Motion - Design, Quantification, Assessment
Black, Jonathan	black.jonathan1@gmail.com	A Founder of Our Field	Orthopaedic Research, Biological Performance of Implant Materials	Physical factors in cell-substrate interactions/Micromechanical behavior of tissue/Organometallic-implant corrosion products/Wear debris: production, biological sequelae/ Surgical implants: retrieval, analysis
Blob, Richard W.	rblob@clemson.edu	Biomechanics	Biomechanics, Locomotion, Bone, Biomaterials	Skeletal loading in vertebrate locomotion - Measurement: load and safety factors; Integrated video, forece-platform recordings / Comparative mechanical properties - Characterization: structure, material; Evaluation of skeletal safety factors; Comparisons: age, sex, and species / Modeling musculoskeletal function - Hypotheses of performance; Intractable systems: predicting performance; Diverse system components
Burg, Karen J.L.	kburg@clemson.edu	Cellular Biomaterials Education	Absorbable Polymers, Biofabrication, Tissue Engineering	Advanced Biomaterials - Tissue reconstruction: injectable composites; Tissue systems: polymeric materials; Complex materials for transition tissues / Bioreactors - Engineered tissue growth: modular systems; Units for coculture and drug discovery; Systems with biomechanical inputs / Tissue Fabrication and Test Systems - 3D engineered tissues for benchtop analysis; Biofabrication methods for 3D tissue; Orthopaedic, soft tissue, disease applications
Dean, Delphine	finou@clemson.edu	Biology from Nanonewtons to Microvolts	AFM, Multiscale, Modeling	Nano- and Micromechanics - Cardiovascular cell mechanics and interactions; Dental cell and tissue characterization; Characterizing small tissue samples / Nanoparticle-Cell Interactions- Evaluating the cytotoxicity of nanoparticles; Modulation of muscle-cell function; Stem cell differentiation and nanomaterials / Multiscale Modeling of Cells and Tissues - Modeling heterogeneity across length scales; Converting image data to model geometries
DesJardins, John	jdesjar@clemson.edu	Designing Orthopaedic Implants	Total Joint Replacement, Orthopaedic Biomechanics	Total-Joint Replacement Design-Kinematic and kinetic performance; Biomaterials tribology, friction, and wear; Knee-joint anatomy and function / Translational Orthopaedic Research - Novel surgical techniques: quantifying effectiveness; Evaluating fracture-fixation design; Orthopaedic rehabilitation / Implant Retrieval Analysis-Implant design and material longevity; Designing new implant surfaces; Biomaterials surface characterization
Dooley, Larry R.	dooley@clemson.edu	College of Engineering and Science	Advanced Manufacturing Techniques	Scientific visualization; Computational modeling; Advanced manufacturing techniques; Microstructural engineering of materials
Figliola, Richard	fgliola@clemson.edu	Modeling Physiology	Modeling, Simulation, Fontan	Simulation with patient-specific anatomy- In vitro circuits of altered anatomy; Flow studies for geometry-flow interactions; Respiration and exercise on efficiency / Ventricular-arterial coupling mismatches - In vitro modeling of neoaortic reconstruction; Vascular property effects on ventricular efficiency; Validation of MRI and clinical measurements / Regulating congenital heart disease circulations - Novel valve solutions; Patient-specific in vitro validations; Numerical simulation of altered anatomy
Foulger, Stephen H.	foulger@clemson.edu	Optoelectronic Colloids	Colloid Synthesis, Nanostructured Materials	Applications of multifunctional nanoparticles- Protein inhibition: enhanced cancer-cell apoptosis; Protein-activated fluoroprobes: imaging, therapy; Enzyme harvesting: rational design of ligands
Gao, Bruce Z.	zgao@clemson.edu	Imaging Cell Interactions	Optical Imaging, Microfabrication, Cell-ECM Interaction	Biophotonics-Coherence-based optical imaging; Nonlinear optics-based imaging; Laser tweezers, laser cell micropatterning / Microfabrication - Cell culture: engineered microenvironments; Lab-on-a chip cell and tissue culture; Microfluidics-based laser cell-sorting / Cell-cell and cell-ECM interactions - Cardiac-cell electrical, mechanical coupling; Microniche: Stem- and cancer-cells

Guiseppi-Elie, Anthony	aguisep@clemson.edu	C3B Laboratories	Biosensors, Trauma, Wounds	Implantable bisensors for continuous monitoring - Bioelectrochemistry; Nanobio interfaces; Enzyme-nano conjugates / Physiologic status monitoring - Trauma and hemorrhagic shock; Molecular markers; Animal studies / Would healing- Programmed release of bioactive agents; Bioactive hydrogels; Animal studies
Harcum, Sarah	harcum@clemson.edu	Bioreactor control	Recombinant DNA, Bioreactor Control, Gene Expression	Gene Expression in Escherichia coli - Effects of protein solubility; Improving protein expression; Fed-batch protocols; Bioreactor control: process control / Chinese Hamster Ovary (CHO) Cell - Glycosylation quality; Protein aggregation prevention; Sequencing the genome of CHO cells / Biofuels Production - Using *Saccharomyces bayanus* ; Oleaginous yeast: lipids for biodiesel
Harman, Melinda K.	harman2@clemson.edu	Medical Device Reprocessing	Orthopaedic-Implant Performance, Recycling, Reuse	Orthopaedic Implant Performance - Analyze retrieved implants, devices; Joint replacements: Preclinical testing, simulations; Bearing surfaces, bone-biomaterial interface / Innovation for Reprocessing, Reuse - Medical device designs: Optimizing for reprocessing; Reprocessing protocols: Verificaiton, validation; Reusable technology for low-resource settings / Translational Orthopaedic Research - Implant registries, postmarketing surveillance; Musculoskeletal biomechanics, functional assessments; Novel surgical instruments, operative techniques
Hermes, Matthew	hermes@clemson.edu	Commercial Clinical Outcomes	Biomaterials, Commercial Clinical Outcomes	Biomaterials Development: Commercial Clinical Outcomes / Absorbable Implants - Synthesis, Manufacture and Quality Maintenance; High-risk surgical-implant candidates; Implant retrieval and evaluation; Presurgical patient-evaluation systems
Kwartowitz, David M.	robodoc@clemson.edu	Personalized Medicine	Image-Guided Surgery, Robotics, Medical Imaging	Image-Guided Surgery-Analysis of localization and tracking systems; visualization techniques; registration accuracy / Robotic-Assisted Surgery-Analysis of accuracy and precision; Integration of pre- and intra-operative data; New applications / Medical Imaging and Image Processing-Novel applications of medical imaging; Disease measurement and therapeutics
LaBerge, Martine	laberge@clemson.edu	Medical Tribology	Total Knee Implant, Tribology, Endovascular Stent	Orthopaedic Bearing Materials-Material synthesis and characterization; Total knee replacement friction, wear, and lubrication; Lubricant development for simulation and in vivo use / Endovascular Stent Restenosis - Implant design and modeling; Contact mechanics and tribology; In vitro experimentation and animal modeling / Vascular Smooth Muscle Response - Implant-contact experimental simulation
Latour, Robert	latourr@clemson.edu	Protein-Surface Interactions	Proteins, Adsorption, Simulation	Molecular Simulation Methods for Biomaterials - Force-field parameterization for protein adsorption simulation; Advanced sampling methods for large molecular systems; Biomaterials design at the atomic level / Molecular Structure of Adsorbed Proteins - Experimental methods to measure adsorbed protein structure - Orientation, Conformation, Bioactivity / Biomaterials Design to Control Cellular Response - Blood contact materials; Platelet adhesion and thrombogenicity
Lee, Jeoung Soo	ljspia@clemson.edu	Biomaterials for Drug/Gene Delivery	Target-Specific Polymeric Nanotherapeutics	Colon-specific bi-functional polymeric prodrug for treatment of amebiasis - Polymeric prodrug synthesis and characterization; Active drug release kinetics; Amebicidal activity and inhibition of parasite-host cell interaction / Neuron-specific polymeric nanotherapeutics for CNS regeneration- Neuronal targeting; Combinatorial drug/siRNA delivery; Axonal regeneration and functional recovery / Target-specific mixed polymeric micelle for metastatic breast cancer - Mixed polymeric micelle as drug/gene delivery carrier; Transfection efficiency, specificity, and cytotoxicity; Gene knockdown efficiency and biological activity
Mei, Ying	mei@clemson.edu	Biomaterials and Cell and Tissue Engineering	Biomaterials, Stem Cell/Tissue Engineering	Biomaterials-Combinatorial biomaterials development; Surface engineering of biomaterials; Smart biomaterials / Stem Cell Engineering - Cell reprogramming, Substrate-stem-cell interactions; Artificial stem cell niche / Tissue Engineering - 3D printing; stem cells for tissue engineering
Nagatomi, Jiro	jnagato@clemson.edu	Cell Mechanics and Mechanobiology	Mechanotransduction, Tissue Engineering	Cellular mechanotransduction of hydrostatic pressure - Mechanosensitive ion channels of bladder urothelial cells; Intracellular signal transduction pathways; Bone-marrow stem cell differentiation under pressure / Mechanically guided urological tissue regeneration - Novel tissue engineering scaffold materials; Bioreactors for mechanical stimulation; Mechanical characterization of engineered tissue / Hydrogel-based smart tissue adhesive - Thermal crosslinking polymer; Mechanical properties tailored for urological organs; Drug-delivery for scar inhibition

Reukov, Vladimir	reukov@clemson.edu	Bioimaging, Nanoparticles	Imaging, Drug Delivery, Nanoparticles	Cell imaging by SPM - Bacteria recognition based on dynamic electromechanical response; Live cell band excitation piezo-response force microscopy; Electromechanical properties of cells / Enzyme-nanoparticles conjugates for drug delivery - Nasal delivery of anti-inflammatory agents; Cholesterol-lowering therapeutics during hyperlipidemia; Targeted delivery of free-radical scavengers through BBB / Fiber-based materials for diagnostic applications - Nanocoated fibers for self-diagnosis of bacterial vaginosis; Fast tests for viral infections (flu, HIV, etc.); Nanofibers for single cell analysis
Simionescu, Agneta	agneta@clemson.edu	Tissue Regeneration Laboratory	Translational Tissue Engineering	Diabetes-related modifications of biomaterials-Irreversible chemical modifications: collagen and elastin scaffolds; Cardiovascular biomaterial stiffness in diabetes; Diabetes-resistant scaffolds treated with antioxidant agents / Stem cells derived from diabetic subjects - Diabetic stem cell characterization and differentiation; Stem cell responses to biochemical, mechanical cues; Matrix remodeling in diabetic subjects / Microvascular network formation in diabetes - Proangiogenic peptide immobilization to 3D tissue constructs; Biomaterial-stiffness adjustment; Testing in diabetic animal models
Simionescu, Dan	dsimion@clemson.edu	Tissue Regeneration Laboratory	Tissue Regeneration	Biomaterials: Cardiovascular and Orthopaedic Applications - Artificial heart valves, vascular grafts, myocardial patches; Engineered intervertebral disc components; Biocompatibility testing in vitro and in vivo / Patient-Tailored Tissue Regeneration - Tissue and organ 3D reconstruction; Human mesenchymal stem cells; Organ-specific bioreactors / Tissue Engineering - Biological scaffolds with controlled degradation; Cues for stem cell differentiation; Living heart valves, arteries, veins, heart muscle
Snyder, James	jsnyde2@clemson.edu	Surface-Adsorption Studies	Biomolecule-Surface Interactions, Proteins	Molecular Simulation Methods for Biomaterials - Force-field parameterization for protein adsorption simulation / Molecular Structure of Adsorbed Proteins - Molecular-modeling-simulation methods to determine adsorbed protein structure; Orientation; Conformation; Influence of protein-surface interaction on mechanism of enzyme catalysis / Computational Studies of Reactions Subject to Confinement - Reactions confined to a nanotube interior
Swaja, Richard is Retired	swajar@musc.edu	Bioengineering Leadership and Regenerative Medicine	Bioengineering Leadership, Regenerative Medicine	Regenerative Medicine - Stem cell sources and differentiation; Tissue and organ biofabrication; Engineering the vascular tree / Bioengineering Leadership - Clemson-MUSC Joint Bioengineering Program; South Carolina Bioengineering Alliance; South Carolina Centers of Economic Excellence
Vanden Berg-Foels, Wendy S.	wendyvf@clemson.edu	The Articular Surface	Cartilage Development, Remodeling, Regeneration	Cartilage development and remodeling - Cartilage-collagen network characterization; Collagen network differences with age, among joints; Helium-ion microscopy / Mesenchymal Stromal Cells-Characterization local to the articular joint space; Signaling molecules: Induce in vivo tissue regeneration; In vitro, in vivo responses to signaling molecules / Cartilage regeneration - Biomaterials for controlled signaling molecule delivery; Temporal signal sequences for robust chondrogenesis in vivo; Characterization of regenerated tissue structure
Vertegal, Alexey	vertege@clemson.edu	Surface Bioengineering	Biosurface Engineering, Scanning Probe Microscopy	Nanoparticles for targeted drug delivery - Antioxidant nanoparticles for respiratory-tract protection; Thrombolytic nanodevices; Nanoparticles for neuroprotection; Antibacterial enzyme-nanoparticles conjugates / Fiber-based biosensors and biodevices - Biosensors for self-diagnosis of bacterial vaginosis; Biosensors embeddable in ordinary household items; Artificial proboscis for probing individual cells / Advanced scanning-probe-microscopy techniques - Mapping mechanical properties of cells and tissues; Bacterial recognition using piezoresponse force microscopy
Vyavahare, Naren	narenv@clemson.edu	Cardiovascular Disease Therapy	Extracellular Matrix, Heart Valve, Elastin	Cardiovascular Calcification: Mechanisms, Therapies - Elastin degradation and stabilization; Prevention of enzyme activities; Suppression of bone proteins; Demineralization / Aortic Aneurysms: Mechanisms, Therapies - ECM stabilization, regeneration; Animal models; Site-specific delivery / Heart-valve Implants - Durable materials; Functional role of glycosaminoglycans in heart valves

Webb, Ken	kwebb@clemson.edu	Redirecting the Wound-Healing Process	Mechanotransduction, Extracellular-Matrix, Hydrogels	Vibratory Mechanotransduction - Extracellular-matrix metabolism; Cytokine expression; Activation of signaling pathways / Scaffolds for Spinal Cord Regeneration - Polymer fibers with micrometer-scale surface channels; Expression and immobilization of neural cell adhesion molecules; Controlled neurotrophin release / Bioactive Tissue Adhesives - Elastic hydrogels with variable degradation rates; Localized, sustained release of nonviral vectors
Yao, Hai	haiyao@clemson.edu	Cartilage Regeneration	Cartilage Mechanics, Tissue Engineering	Cartilaginous Tissue Mechanics - Constitutive modeling and numerical simulation; Structure-Function relationship: biomechanical characterization; Fluid and solute transport: tissue nutrition / Cartilage-Cell Mechanobiology - Single-cell mechanics: Characterization and modeling; effects of physical stimuli: mechanotransduction; Cartilage-cell energy metabolism / Functional Imaging - In vivo cartilaginous tissue imaging; Fluorescent imaging for solute transport; radiation dosimetry: Monte Carlo simulation
Zhang, Guigen	guigen@clemson.edu	Novel Biosensors: Nanoscience and Engineering	Biosensors, Micro/Nanotechnology, Multiphysics Modeling	Integrated structures and biosensors - Fabrication of nanostructures; Integration of nanostructures into microdevices; Development and evaluation of novel biosensors / Characterization of structures - Surface binding of peptides and proteins; Structural characterization of macromolecules / Modeling of multidisciplinary problems - Multiphysics, multiscale simulation of complex problems; Holistic, interdisciplinary approach to biomedical systems

Planning Team: Educational Program: Educational Continuum

Goal

To provide a medical education experience that provides a longitudinal continuum from undergraduate to graduate medical education

- **Objective 1:** Obtain a residency through the National Residency Match Program in a desired specialty, preferably within the top three choices.

  Strategies and Tactics:
  - Provide faculty mentors in desired medical specialty to advise students during 2nd and 3rd years
  - Develop additional 4th year one month rotations in (new) medical specialties to give students training and also to expose them to GHS/USC programs
  - Provide elective time for 4th year rotations at other institutions
  - Provide adequate time for interviews (excused absences for interviews outside of interview season)
  - Identify core entrustable activities for entering a residency program, identify gaps in curriculum, and make adjustments in the M2 through M4 schedules
  - Discuss optimal split between retaining students and exporting the best
  - Optimize visiting student slots to increase visage and reputation of GHS residency programs

  Outcome Measures:
  - Match results in specialty and institution sites
  - Correlation of choice preferences with match placement
  - Number of USCSOM Greenville students retained in GHS residency programs

- **Objective 2**: Ensure that all graduating M4 medical students demonstrate competencies in identified general and specialty-specific skills prior to graduation

Strategies and Tactics:

- Identify core entrustable professional activities for entering a residency program, identify gaps in curriculum, and make corrective adjustments in the M2 through M4 schedules
- Develop the list of general and specialty-specific skills from Program directors and Academic Vice Chairs in the GHS system (consider EPAs and Milestones – Start, or at end of PGY1?)
- Determine best times during M4 year for students to review and practice skills prior to compentency check-offs
- Use OSCE format to assess student competencies in all general skills and for specialty-specific skills

Outcome Measures

- Survey results of graduates from USCSOMG after PGY-1 assessing sense of preparedness for PGY-1
- Survey results of Program Directors from institutions that matched graduates from USCSOMG after the PGY-1 year assessing the level of preparedness for specialty

Timelines

2014-2015

- Work with Offices of Educational Affairs and Student Affairs to develop optimal specialty advising plan
- Develop extended list of electives to optimize career choice exposure
- Develop end of M4 Acting Internship and Intensification experiences that meet and assess core entrustable professional activities as guided by Program Directors and Academic Vice Chairs
- Submit curriculum modification/proposals to Curriculum Committee for approval

2015-2016

- Implement M4 Acting Internships and Intensification experiences
- Develop surveys for graduating students and Program Directors that assess student preparedness for residency
- Monitor NRMP placement and choice to establish baseline data with charter class

2016-2017

- Propose curricular revisions as needed based on data from NRMP placement
- Administer 1 year post-graduation surveys to graduating students and program directors

2017-2018

- Review data from surveys and NRMP for areas of improvement
- Provide curricular recommendations to curriculum committee

Resources Needed

- Chair and leadership support for clinical faculty time to develop/implement/enhance acting internships and intensification experiences
- Clerkship Directors, Program Directors and Academic Vice Chairs time for development of recommendations
- Clinical faculty time to facilitate OSCE and skills teaching/assessment
- Simulation Center and Clinical Skills staff and facilities
- Nursing for interprofessional health integration
- Support from Office of Academic Effectiveness and Assessment for development/implementation/data analysis for surveys and other assessments

Strategic Planning Team: Educational Program: Interprofessional Education

Goal

Prepare all health profession students & health professionals to deliberately work together to build a safer, patient-centered & community/population-centered Academic Health Care System at USC School of Medicine in Greenville and Greenville Health System.

- **Objective 1:** Implement interprofessional learning activities for health professions, & health professions' students

Strategies and Tactics

- Align academic scheduling of interprofessional opportunities/activities with various health professions & health professions students
    - Nursing
    - Advanced Practice Nurses/PAs
    - Pharmacy Students
    - Medical Students
    - Advanced Practice students
    - Public Health
    - Social Work
    - Chaplaincy
    - CRNA
    - Physican Providers
- Form interprofessional steering/planning committee with representation from each of the above programs
- Improve understanding of roles & responsibilities of various interdisciplinary care providers & how the team works together to provide care.
    - Collaborate with Chair, Department of OB/GYN, and Vice President Patient Care Services/Chief Nursing and Experience Officer for professionals' knowledge/attitudes of other professions

- Utilize SIM lab for interprofessional/interdisciplinary activities:
  - Increase interprofessional participation in (Team) STEPPS activities
  - Practicing health care professionals across all disciplines
  - Health care professions students across all disciplines
  - Increase number of faculty/staff who are STEPPS trained

- Increase interprofessional participation in Interdisciplinary Grand Rounds using M3 Clerkship model to include practicing health care professionals and health care professions students across all disciplines

- Improve knowledge of new primary care model that utilizes teams (HRSA patient-centered medical homes) to increase the quality of patient care, and increase the cost-effectiveness of the health care system.

Timeline

- Year One
  Implement interprofessional steering committee
  Define charge for committee
  Identify scheduling opportunities
  Establish IPE program objectives/outcomes
  Complete 5 year strategic plan
  Pursue external funding

- Year Two
  Implement pilot IPE program activities
  Obtain outcomes
  Review for improvement/change

- Year Three
  Identify opportunities for additional activities
  Modify objectives/outcomes as appropriate

Resources Needed

- Staff support for organization/coordination of interprofessional activities
- Corporate/leadership support to encourage participation by all groups
- Faculty and staff to implement, deliver and assess interprofessional activities
- Space for large group and simulation activities

Challenges

- Scheduling conflicts
- Lack of understanding of importance of Interprofessional Education
- Change is difficult for many
- Time constraints
- Lack of understanding of each participant's role in interprofessional teams
- Lack of team-related communication skills
- Lack of teamwork skills
- Lack of willingness to collaborate between physicians, nurses, pharmacists, social workers, case managers, medical assistants, and clinical administrators

Outcome Measures for Success

- Establish a comparison of M1 to M3 students' perception of IPE utilizing the Nebraska tool
  - Office of Assessment and Evaluation will have paper-based copy of survey given to M1s 2 years ago, entered into spreadsheet
  - Establish a date to have M3s take computer based Nebraska survey for comparison with survey given in 2012
- Identify and document number of interprofessional educational activities occurring, and professions/students who participate

- **Objective 2:** Increase interprofessional research activities

Strategies and Tactics

- Invite varied health care professionals to serve as mentors and collaborators for medical student research projects
- Provide faculty and student interprofessional research round table discussions
- Procure external funding to support IPE and interprofessional research

Timeline

- Year One
  Implement interprofessional steering committee
  Define charge for committee
  Identify scheduling opportunities
  Establish IPE program objectives/outcomes
  Complete 5 year strategic plan
  Pursue external funding
- Year Two
  Implement pilot IPE program activities
  Obtain outcomes
  Review for improvement/change

- Year Three
  Identify opportunities for additional activities
  Modify objectives/outcomes as appropriate

Resources Needed

- Staff support for organization/coordination of interprofessional activities
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Challenges

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- Time constraints
- Lack of understanding of each participant's role in interprofessional teams
- Lack of team-related communication skills
- Lack of teamwork skills
- Lack of willingness to collaborate between physicians, nursese, pharmacists, social workers, case managers, medical assistants, and clinical administrators

Outcome Measures for Success

- Funding dollars for interprofessional research and educationsl activities
- Document publications for interprofessional education and research
- Attendance at faculty/student research round table discussions

Strategic Planning Team: Educational Program: Pre-matriculation and Bridge Programs

Goal:

To create a comprehensive and collaborative educational model to foster and support students' journey to and through USCSOM Greenville

- **Objective 1:** Increase competitiveness of Medical Experience (MedEx) Academy participants for acceptance into medical school.

  Strategies and Tactics:
  - Identify MedEx Academy students potentially on track for Medical School and review academic portfolio (GPA, healthcare experiences, etc.) in collaboration with USCSOM Greenville Admissions Office
  - Immerse MedEx Academy students into a "medical school light" curriculum to include learning experiences, MCAT practice, interview skills, and other portfolio building activities. Involve USCSOM Greenville faculty and selected medical students as instructors; and the Admissions Office for portfolio development and guidance.
  - Align a post-baccalaureate/bridge program with MedEx Academy as Tier 5

  Outcome Measures:
  - Proportion of MedEx participants accepted into medical school.
  - Proportion of MedEx students accepted to USCSOM G that choose USCSOM G to attend.
  - Proportion of MedEx participants from disadvantaged backgrounds accepted into medical school.

- **Objective 2:** Implement a comprehensive post-baccalaureate/bridge program as a complement to the USCSOM Greenville that will be administered by Furman University.

  Strategies and Tactics:
  - Review applications and portfolios of students who applied to USCSOM G but were not accepted for common areas of weakness for incorporation into the curriculum.
  - Review academic data on enrolled USCSOM G students to identify common areas of weakness for incorporation into the curriculum.
  - Advise all students who apply, but are unsuccessful in gaining acceptance into the USCSOM G, about the opportunity for improvement through the post-bac/bridge program.

- Inform regional pre-med advisors of the program and its objectives

Outcome Measures

- Enrollment of charter class in program
- Proportion of post-bac/bridge program students accepted into medical school
- Proportion of post-bac/bridge program students accepted into USCSOM G who choose to attend USCSOM G
- Proportion of students from disadvantaged backgrounds accepted into medical school
- Academic performance of post-bac/bridge program students in the USCSOM G curriculum

- **Objective 3:** Implement a comprehensive pre-matriculation program that increases student readiness for the USCSOM Greenville curriculum.

- Review existing student data to identify risk factors for poor academic performance in the USCSOM Greenville curriculum
- Survey faculty for input on risk factors for poor academic performance in the USCSOM Greenville curriculum
- Develop program/curriculum that focuses on the knowledge, skills and behaviors essential for academic success that are delivered using pedagogies and technology embedded in the USCSOM G
- Create academic support system that engages students and provides a continuity of mentoring and support from pre-matriculation through graduation
- Coordinate with Furman University to design appropriate academic support utilizing current expertise and resources

Timeline

- FY 2015 – Assign teams to each strategy and charge with developing an implementation plan and pilot
- Summer 2015 – Implement pilot pre-matriculation program for Class of 2015-2016
- FY 2016 – Launch post-bac/bridge program pilot, assess effectiveness and make revisions as needed
- FY 2017 – The strategies become integral components of the USCSOM Greenville educational program

Structure and Comparison of Pre-Matriculation and Bridge Programs

Program	Target Students	Duration	Objectives	# Students	Payor
Pre-matriculation	Students admitted to USCSOMG who may need assistance to succeed	Summer 6-8 weeks	Develop critical thinking, study, and team learning skills	20	USCSOMG
Post-bac A	Students whom USCSOMG would like to admit but are underprepared	Academic Year	Improve basic sciences knowledge, MCAT scores, clinical observation time	3-4	USCSOMG or students
Post-bac B	Students needing extra preparation to be successful in med school application	Academic Year	Improve basic sciences knowledge, MCAT scores, clinical observation time	~16	Students
MedEx Tier 5	As in post-bac B, but unwilling to commit to full academic year	Summer	As in post-bac, but more targeted and limited in scope	20	?

Resources Needed

- Enrollment Management system: Tracks student journey from point of first contact through matriculation and graduation, inclusive of alumni
  - Measures effectiveness of our pipeline and bridge programs (student placement in our program as well as other programs)
  - Provides key data on competition for SC students, (primary competitors, etc.)

- Faculty and staff to develop, implement and assess programs
- Educational classroom space for programs

Challenges

- Lack of appropriate expertise aligned with each of the strategies
- Silo thinking about how to approach the resources and talent necessary to support the strategies
- Inability to align the strategies with the current educational program
- Keeping up with evolution/changes with evolving medical education program
- Faculty time with growing medical school and need to develop scholarly activities

Outcomes Measure for Success

- Percentage of students requiring remediation
- Overall average on in-house examinations
- Average performance on USMLE Step 1

Strategic Planning Team: Faculty: Faculty Development

Goal

Promote ongoing professional development for clinical and biomedical science faculty, based on best practices, aligned with the mission and vision of the school of medicine

- Alignment of faculty development activities with Mission, Vision, and Values of the medical school and health care system
- Faculty attainment of mastery as medical educators
- Advancement of faculty to excel as scholars and researchers
- Adaptation of teaching styles to learning styles of our diverse student populations
- Development of positive faculty culture to promote intellectual curiosity, teamwork, and a diverse and welcoming environment

Strategies and Tactics

- Conduct annual assessment to determine needs and to track progress over time
- Identify and adopt best practices in faculty development in teaching, research, scholarship, and service
- Maintain a catalogue of faculty development programs and resources offered to faculty
- Continually assess the effectiveness of the full spectrum of faculty development initiatives and adjust programming accordingly
- Create and implement mechanisms and incentives for recognition/reward of faculty achievement
- Ensure opportunities for inter-professional cooperation, integration, and learning
- Create and implement mechanisms for peer evaluations and peer mentoring
- Increase frequency of meetings of SOM Faculty Development Committee from bi-monthly to monthly
- Reframe continuing medical education in terms of active learning toward closing practice gaps in an interprofessional context
- Engage faculty in a positive culture of respect and appreciation (and align incentives/disincentives accordingly)
- Develop a shared Academic Health Center research program involving all of the partners of the SOM and Clinical University

Timeline

0-2 Years

- Conduct need assessment across the full spectrum of faculty activities (teaching, research, and service/practice/leadership)
- Identify and implement best practices in faculty development
- Catalogue current resources and offerings
- Create faculty awards, peer-evaluation system, and mentoring mechanisms
- Establish and implement a strategic plan for CME/CPD
- Implement a robust annual review process for all SOM faculty
- Roll out e-Portfolio system
- Identify priorities for faculty welfare from Faculty Forward Survey data
- Develop criteria and metrics to measure faculty mastery in medical education activity
- Achieve accreditation for CME through ACCME or equivalent state program

3-5 Years

- Establish individualized faculty development program for each faculty member
- Fully align faculty activities with institutional mission, vision and values
- Identify opportunities for additional activities/programs
- Modify strategies and tactics based on evaluation data
- Revisit faculty welfare assessment to chart progress and set new goals

Resources Needed

- Maintain adequate funding for operation of a high performing team within the Office of Faculty Affairs
- Re-establish CME/CPD operations and budget in response to physician and interprofessional faculty input
- Leverage SOM and Clinical University resources to advance shared Academic Health Center activities

Challenges

- Engage clinician faculty whose schedules are full and daily professional identities are not fully aligned with academic medicine and the medical school
- Resistance to a shift toward a culture in which continuous professional development is embraced as a personal value
- Competition for faculty time and energy

Outcomes Measure for Success

- Comparison of data from annual assessments of perceived faculty needs
- Comparison of offered programming and resources to best practices and aspirational comparison institutions
- Number of departments using annual reviews that reflect academic medicine
- Percentage of faculty attaining master medical educator status
- Number of faculty trained as peer evaluators
- Percentage of faculty with weighted average student evaluations above 4.5; 4.0; 3.5
- Number of documented collaborations on projects; on papers
- Percentage improvement on faculty welfare targets established based on evaluation of Faculty Forward data
- Percentage of faculty listed as P1, Co-1, investigator or consultant roles on grant submissions; on funded grants
- Other specific assessment metrics to be determined by researching best practices in assessment of faculty development programs and ongoing consultation with the Office of Assessment

Strategic Planning Team: Faculty: Research Development

Goal

Promote the establishment and continuous development of research/scholarship activities of clinical and biomedical science faculty, based on best practices, aligned with the mission, vision and values of the school of medicine and health care system

- Create and expand connections and collaborations between the biomedical sciences and clinical sciences faculty
- Define research clusters that align well with both institutional and faculty priorities and potential
- Identify and address barriers that impede the rapid implementation of strategic research initiatives
- Advance understanding of, and buy-in for, research activities among clinical chairs
- Create a dynamic and nimble infrastructure to efficiently leverage institutional resources and priorities

Strategies and Tactics

- Connect biomedical sciences faculty with outcomes of medical practice (take advantage of our unique setup)
- Connect areas of interest with individuals across organizations (include Clinical University and partners)
- Conduct needs assessment to determine areas of interest/focus across departments to know where to deploy resources
- Work with clinical chairs and vice chairs to foster research activity in clinical departments focusing on the Triple Aim
- Offer faculty development on fundamental elements of research such as authorship, grantsmanship, intellectual property
- Align activities and frame perspective around transforming healthcare by being a continuously learning healthcare system
- Develop clusters/teams to bring people together, sort out the details and move research forward
- Identify early opportunities (low-hanging fruit) in research clusters (e.g. population health/implementation science, clinical translational research, educational/curricular research, quality improvement, etc.

Timeline

0-2 Years

- Develop a Research Development Steering Committee
- Catalogue current resources and research interests, and set up database for faculty interests and expertise
- Create faculty awards, peer-evaluation system, incentives and mentoring mechanisms that reward scholarly pursuits
- Develop criteria and metrics to measure faculty productivity
- Assess infrastructure needs and establish basic elements of the research infrastructure to increase faculty research efficiency
- Launch research activities for BMS faculty
- Establish core laboratory research instrumentation facility
- Determine faculty hiring needs and priorities related to research /scholarship
- Establish a space plan for research facilities and activities
- Conduct faculty development needs assessment across the full spectrum of faculty research activities
- Launch pilot programs in collaborative translational research involving clinical and biomedical science faculty
- Establish collaborations with educational researchers and develop a campus plan for institutional educational research
- Initiate seminar/speaker series to develop and advance intellectual community
- Establish plan for creating and managing sustainable funding for research activities, including initial grants and principles and priorities for the effective use of indirect costs

3-5 Years

- Build out of needed facilities and infrastructure
- Consolidate research teams and extension of collaborative network
- Establish individual 5-year faculty scholarship program for each faculty member who has >25% time devoted to research/scholarship
- Fully align faculty research activities with institutional mission, vision and values
- Identify opportunities for center grants in PCOR, CER, or other programs aligned with the institutional mission

Resources Needed

- Budget for core research facility
- Need faculty hires
- Seed grant funds for launching promising new initiatives
- Statistical and research design faculty or consultant

Challenges

- Engaging clinician and biomedical science faculty whose professional identities are not fully aligned with the reality of being in an Academic Health Center
- Developing a clear sense of teamwork and solidarity within and across the biomedical and clinical sciences faculty
- Competition for faculty time, energy, and other resources
- Maintaining a healthy work-life balance as we expand faculty activities and responsibilities
- Misalignment of many faculty with institutional priorities
- Uncertainty about financial models

Outcomes Measure for Success

- Peer-reviewed publications number, impact)
- Grants (number of awards)
- Grant expenditures
- Invited scientific presentations (where research/scholarship outcomes are discussed)
- Abstracts
- Faculty h-index or i-index, m-index, Erdos number; average or composite for whole faculty
- Number of clinical-BMS faculty interactions (published vs active collaborations?)
- IP applications/awards?

- Number of inter-institutional projects centered here (and/or centered elsewhere)

Strategic Planning Team: Institutional Setting

Goal

To operationalize a financially sustainable "shared" academic health center (GHS Clinical University) positioned to support the mission, vision and guiding principles of the USCSOM Greenville

Strategies and Tactics

Strategy 1:

Implement a "shared governance and leadership structure for the GHS Clinical University that advances the vision, mission, and guiding principles of the USCSOM Greenville and supports the education, research and service goals for medical education

Tactics:

- GHS "shared" academic health center, "GHS Clinical University model structure, and leadership functioning via the Joint Board Liaison Committee and joint hires)
- GHS Clinical University Advisory Board of Directors (charter, membership, and meeting frequency) identified and launched
- GHS Clinical University Management Committee functioning as team to operationalize the 'shared' academic health center

Strategy 2:

Continue to build the clinical learning environment for the GHS Clinical University with intentional focus on support for USCSOM Greenville to include a focus on the changing healthcare environment (i.e. population health management)

Tactics:

- Medical Education and Graduate Studies Cluster programs (GME, USCSOM G, NP, PA, Pharmacy) will embrace an environment that fosters interprofessional learning
- Research and Scholarship Clusters will expand to support a vibrant research program and administrative support for faculty and students

- Resources will be expanded to promote, facilitate, coordinate, perform, and track applied health services scholarship to include research, grants, publications, and presentations

Strategy 3:

Articulate a comprehensive plan for diversity and inclusion that addresses administration, faculty, staff, and students to ensure a medical education learning environment that promotes competencies required of future physicians

Tactics:

- Leadership development with a focus on female leaders (pipeline via current chair and vice chair structures) will be in place during FY2015
- Faculty will continue to reflect a commitment to a diverse biomedical and clinical faculty
- Staff will be monitored with a focus on increasing the diversity of staff to support administration, faculty and students
- Students will continue to reflect the diversity dimensions with specific attention to enhancing the "pipeline" via MedEx Academy

Timeline

FY 2015 – develop an implementation plan to address each strategy and assign leaders

FY 2016 – Launch each strategy, assess effectiveness and make revisions as necessary

FY 2017 – The key areas identified for each strategy (in bold) fully implemented with documented successes

Resources Needed

Resources will be aligned with the GHS Clinical University annual budget process to ensure appropriate and efficient use of educational resources (talent, finance, space, technology, etc.)

Challenges

- Lack of commitment and engagement of the four partners of the "shared" academic health center
- Avoiding/reducing/eliminating the creation of "silos" that would be barriers to a robust, rich and sustainable institutional learning environment (academic and clinical)

Outcomes Measure for Success

- An integration of the USCSOM Greenville with the GHS Clinical University governance and management structures
- A robust and engaged learning environment that supports the academic and clinical components of the medical education program
- The USCSOM Greenville diversity and inclusion goals met and aligned with the guiding principles

Strategic Planning Team: Medical Students: Admitting Qualified and Diverse Students to MD Program

Goal

To enhance the pool of qualified and diverse applicants to meet the objectives outlined in guiding principle #6 of the University of South Carolina School of Medicine Greenville, namely to "support development of a health care workforce that reflects future societal needs and the diversity of the communities served"

Strategies and Tactics

Utilize MedEx to attract more qualified and diverse students

- Matriculate students that better reflect the overall population of the state by developing relationships
  - Outside of Greenville County, leveraging recent acquisitions of hospitals in Laurens and Oconee Counties
  - Beyond traditional academic partners, targeting qualified students at HBCUs with ties to South Carolina
- Promote greater incentives for highly qualified students from partner and high input feeder schools including Clemson, Furman, Wofford, Bob Jones and USC. Incentives might include scholarships targeted to specific school, early assurance admission for selected students with high GPA to wave MCAT, 3 year undergraduate to 4 year MD program for selected students
- Leverage and continue to foster relationships between MedEx advisory board members and community, business and academic thought-leaders to:
  - Introduce the MedEx program to qualified students
  - Generate/enhance philanthropic support for the program
- Develop and enrich the roles of the Levi S. Kirkland Society and SNMA in recruitment, mentoring and retention of students
- Develop academic enrichment programs to enhance student readiness to successfully complete a robust undergraduate medical education curriculum
  - A six to eight week pre-matriculation program for accepted students who may be at risk of academic difficulty, focused on enhancing critical thinking, study skills, time management and team-based learning skills
  - An additional MedEx Tier (Tier V) program tailored to the individual student's needs (e.g. MCAT prep, interview skills, clinical experience) to enhance preparation for successful (re)application to medical school

- A one year post-baccalaureate certificate program for students who aspire to enter medical school offered by Furman University, taught by Furman and USCSOM Greenville biomedical science faculty

Diversity dimensions to be measured

- Track specific diversity dimensions while recognizing that diversity is further enhanced by students with life experiences and personal characteristics, beliefs and preferences not specifically measured
  - Under represented minorities
  - First generation college student
  - Recipient of AMCAs fee-waiver
  - Designated by AMCAs as socio-economically disadvantaged
  - English as second language
  - Resident of a rural South Carolina county
  - Medicine as a second career
  - MedEx participation

Timeline

Not specified

Resources Needed

- Seek to align out-of-state tuition with national averages; increase use of non-resident scholar tuition to provide greater financial incentives to recruit qualified non-residents
- Recognize the importance of scholarship support in recruiting in-state students from a relatively static number of qualified applicants to the 3 in-state medical schools
- Identify additional donors to sustain and grow scholarship support
- Identify opportunities to partner with GHS philanthropic efforts to provide additional scholarship revenue to USCSOM Greenville
- Enlist the help of current scholarship recipients in ongoing efforts to identify additional sources of support

Challenges

None identified

Outcomes Measure for Success

- Create updated and more comprehensive print materials for student recruitment
- Utilize social media outlets for student recruitment and to enhance recognition of USCSOM Greenville
- Enhance relationships with pre-medical advisors/groups at regional undergraduate institutions
- Develop a series of events at USCSOM Greenville for interested students and faculty to highlight its unique facilities and curriculum and generate interest in attending the school
- Develop a series of events at USCSOM Greenville for potential donors to highlight its unique facilities and curriculum and generate interest in supporting the school
- Identify local/regional sponsorship opportunities to enhance recognition of USCSOM Greenville
- Identify local/regional/national conferences for potential student outreach
- Develop effective messaging to address the inherent challenge of recruiting out-of-state students accepted at less costly in-state (and private) medical schools

Strategic Planning Team: Medical Students: Improving Academic Support Services for Students to Improve Retention and Progression

Goal

Enhance the Academic Success Program to improve effectiveness of study skills support, tutoring, counseling and advisement to meet the objectives outlined in guiding principle #13 of the University of South Carolina School of Medicine Greenville namely "utilizes policies and procedures that synergistically combine the academic virtues of USC with the operational efficiencies of the GHS health system to the benefit of its students, faculty and staff"

Strategies and Tactics

Enhance Awareness and Effectiveness of the Academic Success Program

- The Academic Success Program was introduced in July 2013 to enhance study skills and/or assist students experiencing academic or personal difficulty. To improve student, faculty and staff awareness and use of the program, the program webpages should be improved (http://greenvillemed.sc.edu/AcademicSuccess.shtml) for more graphic-based navigation and better integration with the Student Affairs webpages, the Student and Faculty Handbooks, and the Canvas groups for Med Students Greenville and Faculty Online Learning Community.
- Although students are introduced to the Academic Success Program at M1 orientation, periodic follow-up lunch-and-learn class meetings are recommended to better inform students of the variety of resources available.
  - Students suggested sessions on topics including time management, study strategies, accessing electronic resources, stress reduction and test anxiety. These sessions would incorporate Library, IT, EAP and GHS Wellness groups as well as student affairs staff, and Drs. Khalil and Wiederman.
- Increase support of the Academic Success Program to improve effectiveness. Initially, there was no budget associated with this program. However, as student enrollment grows and increasing numbers of students with academic difficulty are referred by SEPC, modest financial support of the program is recommended as a cost-effective intervention to reduce student attrition and lost tuition revenue.
  - A half-time staff position is recommended in student affairs to improve efficient access to resources by coordinating the student mentor and tutor programs and to manage SEPC-mandated student appointments for meetings with Drs. Khalil and Wiederman. Student tutors have volunteered their time but hourly compensation of tutors as USC student

employees is recommended for future to sustain adequate numbers and commitment of tutors.
    - Student tutors have also suggested an orientation program for tutors to increase awareness of goals and practices of effective tutors
    - Weekly meetings of module faculty with tutors are recommended to better inform tutors of current topics and areas of student difficulty to address.
- Seek collaboration with Academic Success programs at our partner universities including Furman, Clemson and USC. Better promote GHS resources including Wellness, Life Center, and EAP programs.

Enhance Effectiveness of Faculty Advisement and Expand the Scope to Address Student Needs Across all Four Years of Medical School

- USC School of Medicine Greenville will soon have students making medical specialty career choices and entering the residency application process. Student evaluations of the advisement process by M1 and M2 students show significant room for improvement. A restructuring of the current advisement program is recommended to include implementation of effective advising for specialty career selection and the residency application process.
    - A culture of effective advising for M1 and M2 students has not yet been established. M1 and M2 students identify their primary advising needs as academic guidance, encouragement and help adjusting to medical school. These faculty advisors should be readily available to M1 and M2 students and familiar with curriculum and support resources.
        - It is recommended that CDR small group leaders serve as Faculty Mentors to M1 and M2 students since these faculty are familiar with the students and curriculum and are frequently present in the Health Science Education Building. These faculty mentors would coordinate with Student Affairs and the Academic Success program on student concerns.
        - Resources for faculty mentors would include an orientation workshop conducted by Student Affairs with a handbook and access to a Canvas group on Academic Advising providing guidance on academic calendars and policies, student support services, and advising skills and topics recommended by the AAMC Careers in Medicine program.
    - As M2 students make decisions in mid-spring about end of M2 electives and plan on M3 clerkship order and electives, students would use a lottery to select from a cadre of experienced General Career Advisors (suggested faculty might include Buchanan, Byrd, Catalana, Cornett, Ellis, Griffeth, Janse, Jarecky, Nuthalapaty, and Pace). These General Career Advisors would also advise students beginning in mid-spring of M3 through match for well-considered specialty decisions for residency and related planning of M4 schedule and away electives. The Offices of Clinical Education and Student Affairs would coordinate orientation of these faculty and student selection scheduling.

- Specialty/career advisors will be identified by the Office of Clinical Education and oriented by the Offices of Clinical Education and Student Affairs to assist students in mid-spring of M3 through match for preparation of residency application and planning of M4 schedule and away electives.
- The Director of Faculty Development should participate in orientation for Faculty Mentors, General Career Advisors and Specialty/Career Advisors.

- Student Affairs will have primary responsibility for implementation and administration of ERAS and NRMP whereas Clinical Education will have primary responsibility for VSAS. However, both offices will cooperate and cross-train.

Strategic Planning Team: Educational Resources: Secure Ongoing Scholarship Support

Goal

This goal of this strategic planning team is to make recommendations aimed at securing the necessary financial support to ensure that the current level of scholarship support provided to our students can be maintained in the long term.

Strategies and Tactics

The team reviewed the current and projected need for scholarship dollars for the School of Medicine. While the original pro forma for the School reflected a 10% tuition support requirement, it has been our experience that 20% is necessary to attract the best students. Among the reasons cited for this higher level of support is the competition for the brightest students, our stated diversity goals, and remaining competitive with our peers. A review of the AAMC database shows that nearly all of the Macy schools are at or above the 20% threshold, while the average among all schools is 24%. It was agreed among the team members that the 10% operational holdback for scholarship would remain in place for the ten-year projection timeline. We therefore have a gap of $1.5 - $3.0 million to achieve the 20% target over the horizon. Philanthropic support will be required to meet this gap. A recommendation was brought forward by the group to seek outside advice on the proper organizational structure and tactics to meet our fundraising goals. With the assistance of the AAMC, we identified and requested a proposal from a leader in the field of philanthropy for academic health systems. The team has also recommended that the School seek permission from the Greenville Health to use monies from the GHS Endowment for the purposes of guaranteeing scholarship levels.

Timeline

A proposal has been received for a consulting engagement from the firm of Health Philanthropy Services Group, LLC. The Dean and Derek Payne conducted an initial telephone interview with William Montcastle, President and Principal Consultant. An initial onsite visit will take place on November 20, 2014. The engagement is expected to begin in January, 2015, with a target completion date of April 15, 2015.

Dean Youkey has submitted to Mike Riordan, President and CEO of Greenville Health System, a request for use of GHS Endowment funds in support of scholarships for the School of Medicine Greenville. GHS initially pledged the earnings on $75 million of Endowment funds in support of the medical school. The School is seeking a recommitment of those monies in perpetuity as an additional funding source for scholarship needs. An action of the Board of Trustees of the Endowment Fund of the Greenville Health System, Inc., will be required to guarantee those funds. This plan will be discussed at the Joint Board Liaison Committee meeting on November 17, 2014.

Resources Needed

The team requires resources to fund the engagement with Health Philanthropy Services Group, LLC. These funds will be provided from the existing AY2014-2015 USCSOMG Budget. The only remaining resources required relate to the commitment of GHS Endowment funds as outlined above.

Challenges

No significant challenges are expected, pending the outcome of the Health Philanthropy Services engagement.

Outcomes Measure for Success

Success will be measured by two things:

- A plan with action items to develop and refine the philanthropic structure and processes of the academic health system.
- Approval from the GHS Board for use of the Endowment funds for scholarship support.

Strategic Planning Team: Educational Resources: IMED Corridor and Case for Second HSEB

Goal

This team will articulate a case for the construction of a second education building to house expanded programs of the academic medical center. It will also explore the concept of the IMED Corridor and its development in support of our educational programs.

Strategies and Tactics

The team enthusiastically endorsed the fulfillment of the System's evolution to an academic health system. As a component of the discussion, the team developed a list of potential new programs necessary for a well-rounded academic health system. Among those identified were:

- Bachelor in Science in Nursing
- Nurse Practitioner
- Masters in Dietetics
- Bachelor Degree in Laboratory Science
- Doctorate in Prosthetic Engineering
- School of Health Research
- Nursing Assistant
- Physician Assistant Program
- Arnold School of Public Health Satellite
- Charter Public High School
- School of Pharmacy
- Population Health Program
- Aspen Institute/ONE/Professional Education
- GME Expansion

The team recognized that GHS will not be able to fund the facilities and infrastructure necessary for these programs. Sam Konduros, Executive Director of Greenville Health Research Development Corporation, gave the group an overview of the IMED Corridor concept. This innovative public/private partnership relies on a partnership of government, business, education, and healthcare to develop, along the I-185 Corridor, facilities to attract business, industry, and educational tenants much in the same way as the CU-ICAR development did along I-85. It is envisioned that these facilities would attract a mix of offices, retail, and hotels that would focus on transforming healthcare for the Upstate. Master planning for the Greenville Memorial Medical Campus is currently taking place, and plans for the IMED Corridor are expected to complement that plan. The planning group enthusiastically endorsed the IMED Corridor concept in the development of an academic medical campus.

Timeline

Planning is currently underway with the academic partners for new programs in Nursing, Nurse Practitioner, Physician Assistant, Pharmacy, Population Health, and a satellite location for the Arnold School of Public Health. The Nurse Practitioner Program will be presented to the GHS-Clemson Joint Board Liaison Committee at its February, 2015, meeting. Financial projections have been developed for a Physician Assistant program with North Greenville University. GHS and NGU will likely make a decision on the future of that program by the end of calendar year 2014. The current arrangement with the South Carolina College of Pharmacy ends in September 2015. Discussions are underway with the Dean of the school as a vision for the future of that program is developed. Financial projections have been developed for a Bachelor of Science in Nursing with Clemson University. The Joint Board Liaison Committee has charged management with bringing that program forward in 2015. A business plan is being developed for the satellite location of the USC Arnold School of Public Health. That plan will also be brought forward and shared with the GHS-USC JBLC in 2015. GHS and Furman leadership are exploring a population health program, with an expectation of bringing it forward for approval in 2015.

Resources Needed

The success of the shared academic model of the Clinical University is predicated on the ability to share resources. To that end, the Provost for the Clinical University, Dr. Brenda Thames, has begun discussion with the partners over a core group of faculty. This group, which will be hired by GHS, may be utilized by multiple programs to teach students from several universiti8tie. It is critical that duplication of resources is avoided as the Clinical University grows and expands. The planning group recognizes the impact of reimbursement changes on GHS and realizes that expecting the System to fund expanded educational needs and programs is unrealistic.

Challenges

In addition to the challenge of avoiding duplication of resources mentioned above, the primary challenge lies in the physical needs and constraints of the individual programs. GHS is not in a position to build facilities to house the programs under discussion. An outside developer will be necessary to construct facilities and lease them to the programs. This fits well into the grater plan for the Academic Medical Center Campus. The team believes the realization of the IMED Campus is essential to the future of GHS as an Academic Medical center and to the economic development of the I-185 Corridor. Aside from space and faculty needs, the only remaining challenge identified by the team is the capacity constraints of GHS of the additional clinical learners that will be present on campus. The group supports the establishment of a team to evaluate the capacity of each department and site so that a master plan can be developed to avoid overwhelming the clinical enterprise with new learners.

Outcomes Measure for Success

Success will be measured by

- Establishment of a shared core basic science faculty within GHS
- Funds flows developed to ensure each program is paying fair market value for space, faculty services, and clinical experiences.
- Realization of the IMED Campus

GREENVILLE HEALTH SYSTEM
Clinical University

GREENVILLE HEALTH SYSTEM
SCHOLARLY ACTIVITY: OCT 1 2013-SEPT 30 2014
Updated 10.30.2014

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GHS Dept. of Emergency Medicine	
GHS Dept. of Family Medicine	
GHS Dept. of Internal Medicine	Mitzi King
GHS Dept. of Neurology	
GHS Dept. of Nursing	Sue Bethel
GHS Dept. of OB-GYN	Karen Traxler
GHS Dept. of Orthopaedics	Stephanie Tanner
GHS Dept. of Paediatrics	Lorna Lasure
GHS Dept. of Pathology	
GHS Dept. of Psychiatry	
GHS Dept. of Radiology	
GHS Dept. of Surgery	Travis Crump
HR/Learning & Development/Non-Clinical	
IAHC Scholars	
Other Clinical Departments	
Pharmacy	Fred Bender
Pastoral Care	John Hartman
Proaxis Therapy	Chuck Thigpen
SIM Center	Rob Morgan, MD
USCSOMG: Biomedical Sciences Faculty	Claire Gregg

GREENVILLE HEALTH SYSTEM
Clinical University

CANCER INSTITUTE (INCLUDING ITOR RESEARCH)

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Clinical University

CARE COORDINATION INSTITUTE (CCI)

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GREENVILLE HEALTH SYSTEM
Clinical University

GHS DEPARTMENT OF ANESTHESIOLOGY

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GHS DEPARTMENT OF EMERGENCY MEDICINE

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GREENVILLE HEALTH SYSTEM
Clinical University

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GREENVILLE HEALTH SYSTEM
Clinical University

GHS DEPARTMENT OF OBSTETRICS-GYNECOLOGY

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