

July 1, 2009

**Annual Report for 2008-9**  
**Department of Medicine**  
**Boston University School of Medicine**  
**Boston Medical Center**

The Department of Medicine completed a very successful academic year in 2008-9. As outlined below, the department's clinical and research programs substantially increased in both size and quality. The training programs successfully competed for a diverse and outstanding group of trainees, both in the department's residency program as well as the subspecialty fellowships. In addition, a number of enhancements in the department's administrative structure and personnel have contributed to improvements in efficiency and service to our faculty, staff, and trainees. Several recruitments to key leadership positions were completed in the past year: Vice Chair of Faculty Development and Diversity- Emelia Benjamin, M.D., Vice Chair of Education- Angela Jackson, M.D., Vice Chair for Outpatient Medicine- Rajlakshmi Krishnamurthy, M.D., Vice Chair for Inpatient Medicine- Nila Radhakrishnan, M.D., Chief of Rheumatology-Rob Simms, M.D., Chief of Preventive Medicine and Epidemiology-Vasan Ramachandran, M.D., Director of the Evans Center for Interdisciplinary Biomedical Research – Katya Ravid, Ph.D., D.Sc., and Residency Program Director – David Halle, M.D. In addition, Maria Trojanowska, Ph.D. and Joseph Mizgerd, Ph.D. were recruited by the Dean to direct the Arthritis and Pulmonary Centers, respectively. The following report summarizes achievements in Clinical Care, Research, Education, Administration, and Faculty Development.

**Research Activities**

For fiscal year 2009, progress and achievements in research have been quite noteworthy. **The department's research grant funding increased by over 11.4%** in the 2008-9 academic year compared to 2007-8. These figures do not include NIH funding for the National Emerging Infectious Disease Laboratory or research grants awarded to faculty at the Boston VA or Roger Williams Medical Center.

In March 2009 the Evans Center for Interdisciplinary Biomedical Research was established with a mission of using multidisciplinary approaches to enhance novel basic discoveries related to disease. Katya Ravid, Ph.D., D.Sc. was appointed Director of the Evans Center. The Center has begun organizing Affinity Research Collaboratives (ARCs) and research forums, such as Biomarkers for Disease, Protein Trafficking and Neurodegenerative Disease, Sex Differences in Adipose Tissue Remodeling, Inflammation, iPS-Driven Tissue Regeneration, Mitochondria in Disease (see: <http://www.bumc.bu.edu/medicine/evansbiomedicalresearch>). In addition, the Evans Center initiated work with the Molecular Medicine Graduate Program to enhance its curriculum, including a new interdisciplinary elective course in nanomedicine.

In September, 2008, we established three instrumentation cores, Analytical, Animal, and Cellular Imaging. These cores have assisted over 50 PI's with a total of 1500 hours used. The new Cellular Imaging Center will be open to researchers in early July 2009. The

Analytical Core has also established new initiatives such as the High Throughput Molecular Screening service and Immunohistochemistry service. The department has also partnered with the leadership of the Clinical Translational Science Institute to fund personnel in the Office of Clinical Research Resources to enhance services in bioinformatics, patient recruitment, and regulatory affairs.

We received over 35 pilot grant applications from researchers and 22 were approved for funding. The department has also awarded bridge funding to 10 faculty, 6 of whom have subsequently received peer-reviewed grant funding.

The Vice Chair of Research office also coordinated three research symposiums: the Obesity round table, Frontiers in Stem Cell Research, and Nanomedicine. These symposia have been very well-attended.

During the past year, two new Evans Scholars were appointed: Drs. David Felson and Richard Cohen. The Evans Scholar Award was established to recognize and support the research activities of distinguished senior faculty in the department. In addition, the department established three Evans Junior Faculty Research Merit Awards to recognize Assistant Professors with exceptional promise as independent investigators. The 2008-9 recipients were Drs. Elizabeth Pearce, Jining Lu, and Mengwei Zang.

### **Clinical Activities**

The Department of Medicine's clinical activities continue to grow at a rapid pace. Bolstered by the addition of 22 new clinical faculty, the overall physician FTE in the department increased by 7.5%. **The department's faculty increased wRVU's by 16% to 628,000 in 2008-9 compared to 2007-8.** This growth is attributable to increased number of providers and to increased productivity in all aspects of the department's practices.

The department's revenue cycle management was substantially revised during the past year. A new billing company was engaged to process clinical billing and the department converted to an electronic billing charge capture system on the inpatient service. The conversion to these new systems has begun to result in substantial improvements in billings, collections, charge lag, and days in accounts receivable in the final quarter of 2008-9.

Department faculty deliver inpatient care at Boston Medical Center (BMC) and ambulatory care at four BMC sites: the Doctor's Office Building (DOB), the Preston Family Building, the Yawkey Ambulatory Care Center (YACC), and the Moakley Building. Additional sites of care include the Commonwealth Medical Group (CMG), a satellite practice on Commonwealth Avenue adjacent to the BU Main Campus; Quincy Medical Center (QMC); and a number of affiliated neighborhood health centers.

Ambulatory Care: The ambulatory practice of the department continued to grow during 2008-9. **Ambulatory visits (251,000) increased by 8% over the preceding year.** Many

practices experienced double digit expansion in visits: Internal Medicine Peri-operative Assessment Clinic (IMPAC) (approx 21% growth); Center for Infectious Diseases (approx 16% growth); Nephrology (approx 15% growth); Cardiovascular Center (approx 15% growth); Center for Digestive Diseases (approx 13% growth); and Endocrine/Diabetes/Weight Management (approx 11% growth).

A major focus of the department's ambulatory practice has been to increase access for new patients and to increase ambulatory workload. The ambulatory clinics experienced remarkable growth in both of these areas: **new patient visits increased by 23% and outpatient e/m wRVU's increased by 42%.**

The recruitment of a new Director of Diabetes Clinical Services, Dr. Jamie Rosenzweig, brings the opportunity to enhance the current diabetes programs in the inpatient and outpatient realms and in the community. The IMPAC peri-operative practice, now in its second year of existence led by Dr David Halle, provides unique opportunities to streamline pre-procedure services and improve quality of care delivery and education in this evolving clinical area. The Primary Care practices at Yawkey, DOB, and CMG are beginning a multi-year expansion project to increase the population of patients receiving primary care at BMC.

The ambulatory practices are focusing their efforts on improving access to care for new patients, improving patient satisfaction, and improving overall operations and quality of care delivery. Following the Strategic Planning Retreat in March of 2009, the Department continues to seek opportunities to expand our market share in the next three to five years. The Department will be partnering with BMC to support the ongoing development and implementation of many of these initiatives.

Inpatient Care: The Department of Medicine's Inpatient Services continue to see nearly half of all of the admissions to BMC. The number of discharges from the Medical service for the 2008-09 academic year was over 15,000. Despite the high volume, the medicine service continues to work efficiently with an average length of stay of 4.45 days. We continue to improve our efficiency and work diligently to fulfill our obligation to the citizens of the Commonwealth of Massachusetts.

Structured teaching and increased Attending physician supervision has been a major focus of the Department of Medicine. Attending schedules have been modified so that Attending physicians are available and present daily for morning rounds. There is now increased supervision and bedside teaching of both students and house-staff.

Through several initiatives, the Department of Medicine has significantly increased dedicated teaching on the inpatient service. Feedback from the house-staff and students is that the inpatient medicine rotation is a very fulfilling experience with some of the best teaching of any rotation.

Attending involvement in coordination of care also is also increased. Attending physicians now attend daily multidisciplinary rounds and meet with care managers, nurses, pharmacists and physical therapists in order to best coordinate patient care.

The Department of Medicine instituted a Quality Council to address issues of Patient Safety and promote best practices. The focus of the committee during the 2008-9 academic year has been to improve communication during transitions of care from outpatient-inpatient-outpatient. Each section within the Department of Medicine has also implemented metric driven quality plans to insure that we are achieving best practice and delivering high quality care to our patients.

### **Educational Activities**

The Department of Medicine's educational programs continue to thrive, with engaged medical students, a diverse and highly qualified group of trainees in the residency and internal medicine subspecialty fellowship programs, and committed and talented faculty mentors, who model excellence in research and clinical work. New leadership of the Department's education program was appointed in 2008-9: Dr Angela Jackson was appointed Vice Chair for Education and Dr. David Halle was appointed Residency Program Director. Drs. Jackson and Halle bring many years of experience in medical education and knowledge of the institution.

Medical Student Education: During the 2008-09 academic year, the core Medicine rotation was modified. The previous block was the 3<sup>rd</sup> year Medicine Clerkship that consisted of an 11 week block, with an ambulatory and inpatient components. The new block consists of an 8-week inpatient rotation, Medicine 1, for 3<sup>rd</sup> year students, and Medicine 2, a 4-week distinct Ambulatory Block to focus primarily on 4<sup>th</sup> year students. The 2008-10 academic years will be transition years, with both 3<sup>rd</sup> and 4<sup>th</sup> year students participating in Medicine 2. Preparation for this change includes the development of a shelf exam in Ambulatory Medicine, and restructuring and formalization of the ambulatory curriculum. New sites for ambulatory training are also in development.

Changes in the administrative structure- New faculty in key roles have joined Dr Warren Hershman, the Director of Student Education, during the past year. The role of Evans Student Educator/Associate Clerkship Director was developed. Eight Evans Educators were selected based on clinical excellence and dedication to medical student education, increasing to 10 by the end of the 2009-10 year. Dr Thomas Barber was recently recruited as Clerkship Director for Medicine 2, and will take the lead in ensuring high quality education for students in the ambulatory setting.

These faculty members spend dedicated time each week meeting in small groups with students on the inpatient service, reviewing physical diagnosis skills, discussing cases with an emphasis on critical thinking, case presentation skills, and reviewing the students write-ups and progress notes. The Evans Student Educators serve as leaders and key participants in the education and evaluation of small groups of 3<sup>rd</sup> and 4<sup>th</sup> year students on the core Medicine inpatient rotations, providing specific feedback regarding their

performance, advice and guidance. This new role has been very well received by both students and faculty.

Residency Program: The Internship Match for the 2009-10 PGY 1 class was very successful— 41 categorical, 14 preliminary and 5 Primary Care positions. We were particularly pleased that 11 BUSM students matched in our program. There are 32 women in the incoming class, and 9 underrepresented minorities. Additionally, the residents applying for fellowship training following the completion of residency were very successful in the Fellowship Match.

The residency program successfully completed a site visit by the Residency Review Committee in May, and final findings and recommendations are expected by early 2010.

The curriculum was enhanced with expanded ambulatory block rotations in the medical subspecialties in the 2007-08 academic year, each under the direction of core faculty: Nephrology, Dr Adam Segal; Rheumatology, Dr Eugene Kissin; Hematology/Oncology, Dr Nancy Andrea; Pulmonary, Dr. Jeffrey Berman; Gastroenterology, Dr Chris Huang. Building on this successful experience, the 2008-09 academic year was a planning year, aimed at further increasing the emphasis on ambulatory training, and continuity experiences in particular, for the coming academic year.

New curriculum: We developed and implemented an innovative EBM curriculum for residents, spearheaded by one of our Chief Medical Residents, Dr Eddy Chen, utilizing new technology with Podcasts, and developed and taught in collaboration with BUSM library staff. New quality improvement exercises, with peer chart review, were implemented this year, under the guidance of Drs Raj Krishnamurthy and Nila Radhakrishnan – the Vice Chairs for Ambulatory and Inpatient Clinical Services, respectively.

Senior Resident Academic Day: All of our PGY 3 residents participated, presenting either a talk, poster of their original research or clinical vignette.

Grant Funding: The Primary Care Training Program was awarded a HRSA Title VII grant in July, for a total of \$1,012,184, over three years to develop curriculum focused on the care of medically underserved patients. Initiatives include: Advocacy Skills, health Literacy, Mental Health in Primary Care, Addiction Medicine, Enhanced Continuity Practice and Cultural Competence.

Drs Jackson and Alford were awarded a medical education grant by NIDA to develop an OSCE for medical residents addressing the diagnosis and management of Prescription Drug Abuse in the ambulatory setting (\$36,000). BUSM is also represented in the Massachusetts Consortium, a NIDA Center of Excellence, developing a model curriculum in Prescription Drug Abuse. Dr Jackson is the site leader for these initiatives.

Fellowship Programs: All Internal Medicine subspecialty fellowship programs continue to recruit high quality candidates. Infectious Disease, Nephrology and Hematology/Oncology were site-visited by the RRC and received full accreditation.

**Faculty Development and Diversity Activities**

Faculty Development: The department’s faculty development and diversity (FDD) activities were greatly enhanced by the recruitment of Dr. Emelia Benjamin to the Vice Chair role and the empowerment of the department’s FDD Committee under the leadership of Drs. Karen Freund and Subha Ramani. Monthly FDD seminars were held on a variety of topics including advancement and promotion, conflict management, peer review, and mentoring. The topics for these seminars are continuously evolving based upon faculty needs and expertise.

A quarterly FDD grant program has provided support to the following faculty in the department:

<b>Recipient</b>	<b>Program</b>
Isabel Dominguez (Winter 09)	Massachusetts Biotechnology Education Foundation: Leadership training program for scientists
David Seldin (Winter 09)	AAIM: ASP Seminar for New Division Chiefs
James Meisel (Winter 09)	Cleveland Clinic /U. Miami 4 <sup>th</sup> Annual Perioperative Medicine Summit
Subha Ramani (Winter 09)	Harvard Macy Institute- Leading Innovations in Health Care & Education:
Robert Simms (Winter 09)	AAIM: ASP Seminar for New Division Chiefs
Matt Russell (Spring 09)	American Academy on Communication in Healthcare’s “Enriching Relationships in Communication in Healthcare (ENRICH) course
Sandhya Rao (Spring 09)	Duke University Mini-Fellowship program in Palliative Care Education
George Philippides (Spring 09)	Boston University School of Management’s Pocket MBA for Physicians
Vasan Ramachandran (Spring 09)	AAIM: Executive Leadership Program

Faculty diversity: The Vice Chair of FDD has participated in the BUMC Diversity Task Force, chaired by Dr. Jonathon Woodson. The Vice Chair of FDD and Sharon Levine, Associate Dean for Academic Affairs are co-chairing a BUMC-wide Mentoring Task Force. A diversity page for the DOM FDD website is being developed that will feature web links to BUMC and BU diversity websites, and will feature links to important articles on diversity available at the BUMC library. Experts in diversity from the AAMC discussed strategies to foster diversity among faculty and trainees.

**Faculty List:**

<u>Rank</u>	<u>Total</u>	<u>Women</u>	<u>Under-Represented Minorities</u>
All	383	153 (40.0%)	31 (8.1%)
Professor	92	20	3
Associate Professor	78	33	5
Res AoP	2	0	0
Assistant Professor	135	54	16
Res AP	39	21	2
Instructor	39	25	5

**Sample of Noteworthy Publications from Faculty and Trainees in 2008-9:**

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