

**BOSTON UNIVERSITY MEDICAL CENTER  
DEPARTMENT OF MEDICINE  
ANNUAL REPORT  
SECTION OF GERIATRICS  
JULY 1, 2008 – JUNE 30, 2009  
FISCAL YEAR 2009**

**Overview of Education, Research, and Clinical Activities:**

A) Education Activities

Medical Students. All medical students participate in the geriatrics curriculum that is part of the required third year Family Medicine Clerkship. Emphasis is placed on Geriatric Assessment skills development. During their required four-week fourth year Geriatrics and Home Medical Care Clerkship, students are exposed to interdisciplinary care in a variety of practice settings, including patients' homes, ambulatory clinics, senior centers, and nursing homes. These precepted clinical experiences allow them to practice their Geriatric Assessment skills and are complemented by a defined curriculum that is delivered via case-based seminars as well as on-line directed learning exercises. Students may also elect to spend four weeks of their third year internal medicine inpatient clerkship and/or their Medicine subinternship on the Geriatrics Inpatient Service. The Section also provides faculty and staff support for the BUSM Student Chapter of the American Geriatrics Society.

Four clinical geriatrics experiences are included in our internal medicine residency program: 1) all Primary Care interns participate in a two-week block experience designed to introduce them to community-based services and our interdisciplinary primary care team model of geriatric care; 2) 26 residents per year complete a four-week outpatient rotation in geriatrics, whose sites include homes, nursing homes, and a Program of All-Inclusive Care of the Elderly (PACE) site; 3) an additional two to five residents in the Primary Care Training Program elect to follow home care or nursing home patients a "second clinic" over one to two years; and 4) 26 interns and 13 residents per year form the housestaff team for the Geriatrics Inpatient Service.

Since its inception in 1988, the Geriatric Medicine Fellowship (Sharon Levine, MD, Program Director) has trained academic geriatricians, the majority of whom are practicing in underserved areas. There are both one-year and two- to three-year training options. In 1991, with the support of a Bureau of Health Professions (BHP) Faculty Training Grant in Geriatric Medicine and Dentistry, the fellowship expanded to include dental fellows, and in 2000 further expanded to include psychiatry fellows. The fellowship includes a strong mentored research component, with all two-year fellows completing a research project that fulfills the thesis requirements for an MSc in epidemiology or health services through the BU School of Public Health. The Section also co-sponsors nationally recognized Geriatric Oncology Fellowship in collaboration

with the Section of Hematology/Oncology. Two of our 2008 fellowship graduates joined the section this academic year: Drs. Ilona Kopits and Won Lee.

Our John A. Hartford Foundation Center of Excellence in Geriatrics faculty development program continues to train non-geriatrician faculty scholars (60 faculty members have been trained since 1998). The program is designed to equip clinician educator faculty members to become excellent teachers of geriatrics principles. Six faculty scholars have been accepted for the coming academic year, representing general internal medicine, renal, pulmonary, and infectious disease.

## B) Research Activities

Dr. Rebecca Silliman leads a research group that conducts research on breast cancer etiology, disparities in breast cancer therapy, and the consequences of those disparities. Current grant funding includes three R01s and a K05 (all funded by the National Cancer Institute) that support mentoring and research collaborations both at BU and across the nation. Recent papers have focused on the importance of undermanagement of breast cancer as a risk factor for both recurrence and breast cancer mortality. Methodologic papers have highlighted the challenges of confounding by indication in observational studies and the impact of collapsing strata of comorbidity on estimates of effect. Dr. Silliman is also principal investigator of a National Institute on Aging (NIA) R01, in collaboration with Dr. Michael Paasche-Orlow from the Section of General Internal Medicine. It is testing the efficacy of a computer-based agent to increase the amount of walking done by older adults. Dr. Silliman serves as Chair of the Research Committee of the American Geriatrics Society and is an associate editor of the *Journal of Gerontology: Medical Sciences*.

Dr. Thomas Perls is Director of the New England Centenarian Study. Current projects focus on the heritability of exceptional longevity; the compression of disability vs. morbidity with exceptional longevity; and genetic association studies. Funding from the NIA is supporting the "Long Life Family Study", a collaboration of Boston University, Columbia University, University of Pittsburgh, and University of Southern Denmark. Through the identification and enrollment of 1,000 families, investigators will determine the familial aggregation and modes of transmission of exceptional survival within families, and to characterize the phenotypes associated with exceptional survival for eventual genetic linkage analysis. In collaboration with Dr. Martin Steinberg, under a NHLBI STAMPEED grant, the entire New England Centenarian Study sample of centenarians and their offspring were genome-wide genotyped. In a preliminary pooled data study, Dr. Perls and his colleagues determined an association with an RNA editing gene, ADAR. They have completed their analysis of the genome wide association study and have found 30 SNPs significantly associated with exceptional longevity that have been replicated in an independently conducted centenarian study. Plans are also underway to genome-wide sequence the genomes of two supercentenarians (ages >110 years).

Dr. Erica Bernstein is focusing her investigative work on the intersection of aging, oxidative stress, and diastolic dysfunction. She is a BIRCWH (Building Interdisciplinary Research Careers in Women's Health) Scholar and has received funding from the Pepper

Center (see below). Dr. Silliman is co-principal investigator (Karen Freund, MD, Director of the Center of Excellence in Women's Health is principal investigator) of the BIRCIWH (K12) program.

This year Dr. Victoria Parker was appointed Director of Interdisciplinary Aging Scholarship for the section. Under her leadership three pilot projects were funded and a series of faculty development sessions were offered for clinician educator faculty. This model program marries the strengths of advance practice nurses and our social worker with those of our physician faculty. The first publication emanating from this new venture is *in press*.

The Summer Institute in Geriatric Medicine, funded by the NIA and designed to provide a week-long intensive research experience, drew a class of 17 medical students from across the United States to the Boston University Medical Center campus in June. A competitive renewal application was funded for five years as of May 1, 2006 (Rebecca A. Silliman, MD, PhD, principal investigator).

### C) Clinical Activities

Boston University (BU) Geriatric Services at Boston Medical Center, the clinical program of the Section of Geriatrics, has as its primary goal to provide ongoing primary care and case management to older Boston residents. Other goals include the provision of geriatric consultative services to BMC primary care physicians and specialists, and to promote geriatric education through the comprehensive training programs described below. A collaborative practice model is used, with care provided by geriatricians, clinical nurse specialists, nurse practitioners, registered nurses, and a social worker. BU Geriatric Services cares for approximately 2,000 patients in a range of settings, including the Geriatric Ambulatory Practice, the Home Care Program, the Nursing Home Program and the Geriatric Inpatient Service. Dr. Lisa Caruso is overall Clinical Director for BU Geriatric Services and Clare Wohlgemuth is our Director of Nursing. Each component of the practice also has a physician and nurse leader.

The Geriatric Ambulatory Practice (GAP) cares for older adults who are able to use available transportation. Approximately 1,000 patients are cared for during 12 geriatrician sessions/week, 2 Geriatric Medicine fellow session/week, and 1 registered nurse session/week. Additionally, the GAP holds 2-3 Geriatric Assessment sessions per month. Dr. Heidi Auerbach is the physician leader and Ann McDonough is the nurse leader.

The Home Care Program cares for approximately 530 homebound frail elders living within the City of Boston. Many are eligible for nursing home placement, but are able to remain at home through an extensive network of formal and informal nursing and personal care services. Dr. Eric Hardt is the physician leader and Cathy Fabrizi is the nurse leader. BU Geriatric Services clinicians (physicians, nurse practitioners, and nurse case managers) work in close collaboration with patients' other caregivers, including the certified home health agency, community agencies, and family and friends. We have

gained considerable experience with a special capitated program for patients with both Medicaid and Medicare and have expanded the use of Logician via wireless access to patients' homes.

The Nursing Home Program cares for approximately 420 patients in 10 Boston nursing homes, also using a nurse practitioner-physician collaborative model. Patients enrolled in the program typically require long-term care, and many are patients who were initially cared for in the Geriatric Ambulatory Practice or in the Home Care Program. The program also cares for short stay patients with skilled nursing or rehabilitation needs. Logician is also used in the Nursing Home Program. Use of Logician helps to smooth clinical transitions and minimizes duplicate laboratory and radiology testing. It also reduces the chances of lack of follow-up of hospital-initiated tests. Dr. Gary Brandeis is the physician leader of the Nursing Home Program and Monica Hogan serves as the nurse leader.

BU Geriatric Services is also responsible for the Geriatric Inpatient Service and most section physicians annually undertake two two-week rotations as the attending physician. The service admits 24/7; the housestaff team of a resident and two interns is complemented by a nurse practitioner from the section who also serves as the service nurse leader (Julie Wentworth). Dr. Lisa Caruso is the physician leader. Whenever possible, patients within any of the section's programs who require inpatient care are admitted to the inpatient service.

### **Major Accomplishments:**

- During calendar year 2008, the section published 16 articles in peer-reviewed journals.
- Dr. Silliman was a visiting professor at the University of Alabama at Birmingham in June 2009.
- Dr. Perls presented the Malford Thewlis Lecture, at the Rhode Island Geriatric Education Center in April 2009
- Under Dr. Shalender Bhasin's leadership, we, along with investigators from Tufts University and the Joslin Clinic, were awarded a Claude D. Pepper Older American Independence Center grant. Only one of 12 funded nationally, the Center trains early career investigators and supports pilot and development projects focused on developing new strategies for enhancing the functional status of older adults. Dr. Silliman is a Co-Director of the Center and directs the Research Career Development Core (RCDC). The RCDC supports the research of four early career investigators.

**Description of Featured Faculty:**

Drs. Serena Chao, Daniel Oates, and Matthew Russell are recipients of Geriatric Academic Career Awards from the Health Resources and Services Administration (Title VII) funding. These three-year grants support the development of clinician educators in Geriatrics. Dr. Chao pursued additional training in educational theory and adult learning. Among her many accomplishments, she has developed a standardized curriculum for our Inpatient Service. Dr. Oates has become an expert in health literacy as it pertains to older adults and has developed highly regarded seminars for all levels of trainees. A particularly innovative collaboration has been undertaken with faculty at the BU School of Social Work and presented at a national meeting. Dr. Russell has developed his skills as a palliative care physician and become an expert on teaching communication skills to facilitate care planning in collaboration with patients and their families.