VA Boston Healthcare System

The VA Boston Healthcare System (VA Boston) is the primary tertiary care referral center for 5 New England states, as well as a large primary care system in eastern Massachusetts. VA Boston is comprised of three main campuses, Jamaica Plain (JP), West Roxbury (WX), and Brockton plus 6 outpatient clinics in eastern Massachusetts. The WX Campus is the site for the acute inpatient Medical, Surgical, Neurological and Rehabilitation services. Acute Psychiatry, a Spinal Cord program, an inpatient hospice program, a transitional care unit, nursing home unit, and specialized substance abuse programs reside at the Brockton Campus. The JP Campus is primarily an outpatient and research facility with and home to the majority of specialized clinical services and major research initiatives.

The Medical Service at VA Boston is closely affiliated with the Departments of Medicine at Boston University School of Medicine (BUSM) and at Brigham and Women's Hospital of Harvard Medical School (HMS). Many faculty members at both schools have full- or part-time appointments at VA Boston, where they we work collaboratively in practice, teaching, and in conduct some or all of their research. VA Boston is a major site for the clinical training of residents and fellows from Boston Medical Center (BMC), Brigham and Women's Hospital (BWH) and Beth Israel Deaconess Medical Center (BIDMC), as well as students from BUSM and HMS.

Paul R. Conlin, MD, is Chief of the Medical Service. Jay D. Orlander MD, MPH serves as Associate Chief of Medicine and Vice Chair for Veterans Affairs in the BU Department of Medicine.

VA Boston is a thriving, clinical primary and tertiary care, educational and research center.

CLINICAL ACTIVITIES

In the past fiscal year nearly 62,000 individual patients received care in our healthcare system making over 680,000 visits to our primary and specialty clinics across all disciplines, up over 3% from the preceding year. The inpatient service remains busy with more than 5600 admissions to medicine, but continues to evolve to meet the needs of our patients and trainees.

New initiatives on the clinical service are numerous. On the inpatient General Internal Medicine (GIM) service, Anand Kartha MD, ScD, has developed a program of Nurse Practitioners/Physician Assistants who assist the housestaff teams by facilitating and providing discharge planning, patient education and enhanced direct care. These physician extenders have been shown to increase patient care efficiency, patient satisfaction and the housestaff's educational experience.

The Pulmonary Section has added a program in Allergy medicine to its portfolio and the program has already exceeded capacity, with a doubling of patient referrals since taking

over the program in mid-FY2009. On the technology side, they have added GPS guided bronchoscopic technology to facilitate better detection and assessment of pulmonary malignancies.

Cardiology has developed a vascular medicine program, which includes the ability to perform percutaneous peripheral and cerebrovascular interventions.

EDUCATION

Together, Boston Medical Center, Brigham and Women's Hospital, and Beth Israel Deaconess Medical Center rotate more than 200 interns and residents and 80 third year medical students through the VA Boston Medical Service each year. Clinical and research fellows in GIM and all medical subspecialties receive training at VA Boston. BUSM trainees constitute greater than 50% of the trainees on the Medical Service. Under the direction of the BUSM and HMS resident and student program directors at the VA, all trainees work together, regardless of medical school affiliation, to present a cohesive educational program and support to all trainees.

VA Boston is also a site for training in physical diagnosis skills for BUSM and HMS second-year students, as well as students in a special MIT Biomedical Engineering Program.

This past summer a novel program was developed in which current second year medical students from both BUSM and HMS were trained as health technicians on the inpatient wards. Termed "The Other Side of the Bed," this program was designed to provide medical students with basis bedside clinical skills (vital signs measurement, ECG, phlebotomy, IV insertion) as well as a perspective on bedside care as viewed by nursing staff. It was a phenomenal success. A first in the nation program, the students developed wonderful rapport with both patients and their RN trainers. Many graduates of the program continue to be employed part time on the wards, as their schedules allow.

A novel Patient Safety Rotation, led by Drs. Anand Kartha (Hospitalist) and David Thornton (Assistant Program Director), was introduced into the Internal Medicine residency program in 2008, was expanded in FY2009 and was cited as a best practice by several external review organizations including The Joint Commission. This program provides hands-on experiences in patient safety and is a model for health care education. The program is expanding to involve allied health disciplines. The success of this program was instrumental in helping VA New England successfully compete for one of four funded Veterans Engineering Resource Centers (VERC). This is an initiative that integrates systems engineers from nearby universities - Northeastern, MIT and Worcester Polytechnic Institute, (including undergraduates, graduate students and faculty) to health care problems large and small. Under the guidance of Dr. Kartha a project to decrease turn-around time of morning laboratory results has already been launched.

RESEARCH ACTIVITIES

VA Boston's research programs continue to succeed even in this era of fiscally stringent research resources nationally.

The Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC) received funding exceeding $10 million this fiscal year, employs a staff of over 125, and with over 100 papers published or in press this past year, continues to be the major center of research excellence at VA Boston and in Medical Service particularly. MAVERIC is actually 3 major research related programs. It is one of 5 national Cooperative Studies Program Coordinating Centers (CSP CC) involved in planning and running a variety of clinical trials. While VA Boston is the youngest of the CSP centers, joining the program in 2002, it has coordinated more than 22 large-scale trials and epidemiology studies in a wide range of chronic disease areas. Currently MAVERIC has collaborative projects with 29 other institutions including other VA's, the Department of Defense and other universities and academic institutions. MAVERIC is one of only 3 Epidemiology Research Centers of Excellence in the VA nationally with special expertise in cardiovascular and pharmaco-epidemiology. MAVERIC is currently involved in launching a major genomic initiative.

MAVERIC leadership is nearly synonymous with national VA research leadership in several key areas. Lou Fiore, MD, MPH, is Director of Informatics of MAVERIC and Chief of Informatics for the National VA Cooperative Studies Program. J. Michael Gaziano MD, Directs the Epidemiologic activities of MAVERIC and for all of VA Cooperative Studies. Mary Brophy, MD, in the Section of Hematology oversees the 3rd component of MAVERIC, a national serum and tissue repository to support VA investigation across the country. At the behest of VA Research Office of Research and Development, Mary Brophy and MAVERIC have been granted $5 million dollars to further enhance the biorepository for high throughput processing for genetic studies. Half the funds will be used for a new building on the JP campus and half to equip the lab with robotic processing equipment for state of the art genomic research. These three have been granted planning funds to develop a 1,000,000 veteran cohort for future genetic-epidemiologic studies. One fully funded initiative just beginning is a 40,000 veterans cohort (patients and controls) to study genetics of schizophrenia.

Major continuing programs include the VA Normative Aging Study. Pantel Vokonas, MD, Professor of Medicine and Public Health at BUSM, is the director, and David Sparrow ScD, (appointed in Pulmonary) is associate director. This prospective epidemiologic study recruited >2000 veterans in 1963 and continues today. This group collaborates with investigators across disciplines within VA and across several Boston area teaching hospitals. They have published over 400 manuscripts.

Clinical and laboratory science also are vibrant components to the Medical Services research portfolio across the multiple sections of the medical service. While not comprehensive the following is a list of highlights.

The GI section has a major research emphasis directed towards the development and clinical evaluation of novel imaging techniques. Satish Singh MD, a funded investigator from the Center for Integration of Medicine and Innovative Technology (CIMIT) works

in the area of spectroscopic fiberoptic instruments and optical coherence tomography. These technologies are being evaluated for their ability to detect dysplastic, metaplastic and inflammatory abnormalities of gastrointestinal epithelia. Complementary imaging research in the section is done by Hiroshi Mashimo, MD who like his colleague Raj Goyal MD, investigates motility of the GI tract. Several clinical trials of Hepatitis C treatment are led by Marcos Pedrosa, M.D.

In GIM, Antonio Lazzari, MD is the local principal investigator on 3 studies in the assessment, risks and treatment of osteoporosis in men. Anand Kartha, MD, ScD, is evaluating the impact of Hospitalists in the VA system nationally. Wildon Farwell, MD, MPH uses pharmaco-epidemiology techniques to study the impact of drugs on disease and works on several multisite randomized clinical trials.

Daniel Jacobson, Chief of Oncology, studies genetic aspects of amyloidosis and the cell biology of lymphoma. Clinical trials in lung and colon cancer (Valia Boosalis MD) prostate cancer (Carlos Vera MD) and Multiple Myeloma (Nikil Munshi MD). Gary Gilbert MD investigates mechanisms through which blood coagulation proteins interact with membrane phospholipids.

In Pulmonary, Daniel Gottlieb, MD, MPH, Director of the Sleep Disorders Program, recently competed successfully for an NIH Challenge Grant to study cardiovascular risk reduction in response to treatment of sleep apnea, which adds to his additional studies on the effect of sleep disorders on cardiovascular disease. Eric Garshick, MD, studies the impact of spinal cord injury and environmental toxins on lung function. Marilyn Moy MD, is investigating the impact of exercise on COPD.

In Rheumatology, Samar Gupta, MD is involved in a multi site clinical trial of novel treatments of Rheumatoid Arthritis.

Endocrine research under Paul Conlin MD has 3 current clinical trials related to management of diabetes. One line of research is looking at cost effectiveness of web-based management protocols for patients with poorly controlled diabetes; another is investigating the role of telemedicine as an adjunct to facilitating diabetic eye examinations.

The Renal Section has funded research projects studying dialysis vascular access and a new agent for the treatment of diabetic nephropathy. James Kaufman, MD is the principle investigator on a new Cooperative Studies Program (CSP) study on the effects of the addition of an ARB to an ACE-I in diabetic nephropathy. David Mount, MD, pursues basic of chloride transport, a mechanism that appears to be relevant in both kidney and brain tissue and studies uric acid transport characteristics.

Major Accomplishments

MAVERIC's leadership launched development of a 1,000,000 person cohort for genetic epidemiology research.

VA New England competed for funding as a Veterans Engineering Resource Centers with most projects initiated at VA Boston.

A hand hygiene project utilizing radio frequency enabled hand cleanser dispensers is being launched to assess its impact on hospital acquired infections.