

# Ochsner Research Update, 2012-2013

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The recent academic year has seen yet more evolution of the Ochsner Research enterprise. Senior management decided to further strengthen translational, clinical, and health service research while fostering collaborations between Ochsner clinicians and scientists at The University of Queensland and other institutions. To this end, 2 new competitive funding mechanisms have been established. One links Ochsner clinicians with collaborators at The University of Queensland. The second fosters collaboration between Ochsner clinicians and scientists and investigators at any major research organization. Each mechanism provides 2 years of funding. In addition, important personnel advancements were implemented. Dr Julia Cook was promoted to Director of the Clinical Research Institute and was charged with expanding the scope of Ochsner clinical research through interactions with industry and academia alike. Dr Jawed Alam, Director of the Translational Research Institute, was promoted to Assistant Vice President for Research with responsibility for overseeing and improving multiple aspects of research administration. These positions were created to facilitate the conduct of research by Ochsner clinicians and scientists.

During the academic year, Ochsner investigators made important advances. Building on years of work on the role of follicular dendritic cells in B-cell development, scientists in the Laboratory of Cellular Immunology described the role of the cell surface marker CD9 in contributing to B-cell survival by interacting with a so-called adhesion factor to enhance its binding to dendritic cells in the lymph nodes. This work has implications both for normal B-cell development and for understanding lymphoma. Researchers in the Laboratory of Translational Cancer Research described the interrelationship of lymph node stromal factors and tumor-initiating cells in the growth of colon cancer metastases. The staff of the Laboratory of Rheumatology Research and their clinical colleagues described the role of follicular helper T cells in determining the severity of rheumatoid arthritis. They also better defined the role of B-cell activating factor in lupus erythematosus. Investigators in the Hypertension Laboratory continued their research into the deleterious effects of high salt intake over and above changes in blood pressure. This work

assumed heightened visibility when the Institute of Medicine recently recommended a somewhat higher level of sodium intake than the American Heart Association guidelines call for. Getting to the bottom of this issue will require clinical, epidemiologic, and experimental research.

Clinical research activity was, as always, robust. Of particular note is a cardiology investigator-initiated study of pulmonary hypertension designed to test the idea that implanting a pacemaker in patients with this condition and then programming specific pacing regimes could improve cardiac function both in the short term and the long term. Two major high blood pressure trials were also initiated. The first was an industry-sponsored trial designed to determine if renal denervation—that is, catheterizing the renal arteries and ablating the renal nerves—could lead to blood pressure control in severely hypertensive patients. Preliminary studies suggested that the answer is yes, and the current trial is designed to confirm this hypothesis and to define the characteristics of patients who achieve an optimal outcome. The Systolic Blood Pressure Intervention Trial (SPRINT) is a National Institutes of Health–sponsored multisite trial designed to determine if aggressive lowering of blood pressure produces better outcomes than more modest blood pressure control. This study is being conducted in the recently established Ochsner Clinical Trials Unit. The Center for Medicare & Medicaid Services recently awarded Ochsner researchers a \$3.9 million Health Care Innovation Award to study the continuum of care model for patients who have suffered a stroke. Innovations such as telemedicine consultation are included in the project that promises to improve the quality of care provided to stroke victims in the New Orleans area and thereby improve their outcomes. Additionally, an ongoing evaluation of the beneficial effects of a diabetes boot camp—a short-term intensive education program—showed improvements in glucose control as determined by the measurement of hemoglobin A1c.

Ochsner health service research was also very productive. The National Institutes of Health Cohort Study of Medication Adherence in Older Adults (CoSMO) study continued to generate important information on patient adherence to medication

regimes. This study represents landmark research in the effort to understand and improve patient adherence and, subsequently, the outcomes of healthcare. As part of this effort, the Center for Health Research studied 2 established tools for assessing medication compliance and determined the reliability and predictive characteristics of each. This work is critically important in the effort to predict which patients are not likely to adhere to medical recommendations. Because nonadherence is a recognized problem in disease control, this work has important public health implications. Other health service studies were successfully completed, such as those linking physicians and pharmacists in a cost-benefit analysis of various drug regimens. Another study compared the outcomes of patients treated for septic shock based on their mode of referral to high-intensity care sites. This research has implications for optimizing the care of acute sepsis.

An additional characteristic of this year's research enterprise is the growing participation of pharmacists, nurses, and students in research. Indeed, during Research Day on May 14, plenary presentations of nursing, pharmacy, and student research complemented the noon keynote lecture by Dr Maureen Smith, Professor of Medicine and Public Health at the University of Wisconsin-Madison School of Medicine. Dr Smith's lecture, dealing with the multiple causes of hospital readmission, was both topical and of considerable practical importance. As always, the evening poster session was well attended, and the atmosphere was conducive to the establishment of new collaborations. Awards were presented for the best posters by students, pharmacists, nurses, and residents.

The entire Ochsner research community is pleased with its achievements to date and looks forward to making continued progress in the coming year.