Message from the Director

Low-income groups and urban demographics experience lower quality of healthcare and intervention services, and therefore have higher rates of chronic diseases. Changing this dynamic requires clearly identifying the root of health issues and thinking outside-the-box for potential resolutions. The answer to the aforementioned problem is a strong, aggressive and steady resolve, and commitment to research efforts that are results-oriented and wellness-driven.

CICATS is consistently seeking and committing to research collaborations with other institutions and investigators to address major health issues and find solutions. This edition of In Translation highlights three such research projects that further our understanding of these dynamics and fuel CICATS mission.

—Cato T. Laurencin, M.D., Ph.D.

Dr. Cheryl Oncken, M.D., Ph.D.
Nicotine Replacement for Smoking Cessation During Pregnancy

Many people don’t know that maternal smoking is responsible for 30% of low birth weight infants, 10% of premature deliveries, and 5% of all infant deaths in the United States. However, smoking cessation during pregnancy substantially reduces these risks. Unfortunately, even with augmented behavioral counseling interventions, the rate of smoking cessation during pregnancy are still only 13%. These low quit rates may be due to inadequate treatment of nicotine addiction. Indeed, medications are routinely recommended for smoking cessation treatment in non-pregnant smokers; however, little data is available on the safety and effectiveness of medications to help pregnant women quit smoking.

This study examines the safety and efficacy of the nicotine inhaler as an aid to smoking cessation during pregnancy. The specific aims are to:

1. examine the effectiveness of the nicotine inhaler compared to a matching placebo for smoking cessation and reduction of smoking during pregnancy;
2. compare the nicotine inhaler with a placebo on overall nicotine exposure (as reflected by serum cotinine concentrations), and on birth outcomes (i.e., birth weight and gestational age);
3. identify factors that determine which women benefit the most from use of the nicotine inhaler for smoking cessation during pregnancy; and
4. explore mechanisms by which nicotine inhalers increase birth weight and gestational age of newborns.

Female subjects will be recruited from two prenatal clinics that primarily serve a low-income, minority population. Pregnant smokers (n=360) who smoke at least 5 cigarettes per day will receive nurse-delivered behavioral counseling and be randomized to receive a 6-week course of treatment with either a nicotine inhaler or placebo, followed by a 6-week taper.

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outcomes will be obtained on all participants.

This study hypothesizes that compared with a placebo treatment, the nicotine inhaler will result in:

- higher 7-day point prevalence abstinence rates;
- fewer cigarettes smoked daily at 32-34 weeks gestation and lower cotinine concentrations at during this time;
- higher infant birth weight;
- longer, gestational age; and fewer low birth weight and preterm deliveries;
- greater benefits among heavier smokers (≥ 10 cigarettes/day) than lighter smokers; and
- evidence that smoking cessation or reduction results in greater birth weight, which may be mediated by changes in markers of inflammation or oxidative stress.

This multi-site study is currently recruiting at Hartford Hospital and Baystate Medical Center in Springfield, MA. ♦

David Steffens, M.D., Ph.D.
Neurobiology and Acute Treatment Outcome of Late-Life Depression

This research project seeks to understand relationships between brain function, neuroticism and mood, and cognitive outcomes in late-life depression. Neuroticism is defined as a mental and emotional disorder that affects only part of the personality and is accompanied by various physical, physiological, and mental disturbances. As a result, neuroticism is commonly observed in depression across the life span of many individuals, while less clearly, are the mood and cognitive consequences of neuroticism in older, depressed adults. Furthermore, there is a limited understanding of biological processes related to neuroticism at any given age.

These issues and their corresponding questions are particularly meaningful in late-life depression, which is commonly associated with:

- increased risk of poor outcomes, including lower remission rates;
- higher relapse rates; and
- increased risk of incident dementia.

Identification of factors related to these poor outcomes is essential for preventing the morbidity associated with persistent depression and cognitive decline, as well as the development of neurally informed novel interventions.

The study is recruiting 140 older, depressed patients and 75 older, non-depressed patients as the control group. Detailed psychosocial, functional, clinical, psychiatric, medical, neurological, and cognitive assessments will be obtained at baseline and at defined points during follow-up meetings. Structural and function MRI studies will be performed on patients. It will be hypothesized that the principal outcome measures are trajectory of mood, cognition and neural correlates of neuroticism.

All patients will receive standardized treatment for up to 24-weeks, with a standardized two-step intervention plan using Sertraline™ followed by either Bupropion augmentation or Desvenlafaxine (brand name Pristiq™). After 24-weeks, patients will be followed using an established guideline-based treatment algorithm.

It is expected that results from this study will identify:

- brain regions involved in neuroticism; and
- will clarify the relationship between neuroticism and poor outcomes in depressed, elderly individuals.

This is a collaborative study between UConn Health Center and Hartford Hospital's Institute of Living. ♦

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Jean Schensul, Ph.D. & Susan Reisine, Ph.D.

Two Collaborative Oral Health Studies

The prevalence of preventable and treatable oral health problems among older adults is high and there are striking oral health disparities among impoverished older adults and adults with disabilities. This spans all racial and ethnic backgrounds, particularly African-Americans and Latinos.

The Institute for Community Research (ICR) and the University of Connecticut School of Dental Medicine (SDM) together have received funding from the National Institute for Dental and Craniofacial Research for two projects focused on improving the oral health of vulnerable adults residing in publicly-funded senior housing. The PI’s for this study are Jean Schensul, Ph.D., from ICR; and Susan Reisine, Ph.D., from SDM. The goal of this study, Building Collaborative Research Infrastructure to Reduce Oral Health Disparities among Low Income Older Adults (# RC4 DE021324, 2010-2013), is to enhance the potential for research on oral health with older adults. Likewise, Changing Oral Health Norms and Hygiene Practices among Vulnerable Older Adults (#R34 DE022271-01, 2011-2013), is a pilot intervention to improve the oral health of residents of one senior housing location in central Connecticut.

The grant provided support for the formation of the Oral Health Research Strategic Alliance (OHRSA), enabling advocacy and promotion of research to reduce oral health disparities among older vulnerable populations. Additionally, it enabled OHRSA to develop contacts while working among several senior housing sites.

The pilot study includes:
1. survey data;
2. a face-to-face oral health educational intervention referred to as Adapted Motivational Interviewing with Practice to Mastery;
3. pre- and post-clinical assessments to measure plaque and gingivitis; and
4. a resident volunteer of the Good Oral Health Campaign Committee to implement two building-based, oral health campaigns.

These two studies are unique contributions to oral health behavioral science. The OHRSA has merged with the statewide Task Force on Oral Health for Older Adults, and a follow-up expansion study to test the pilot intervention on a larger scale is anticipated to begin in early 2014.

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*For more information about CICATS sponsored events or if you are interested in being added to our Listserv, please contact Yvonne Barber at ybarber@uchc.edu.

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