

Boettiger Joins CAS Faculty

As the academic year kicks off with innovative and exciting alcohol research, the Bowles Center for Alcohol Studies (CAS) is pleased to welcome new faculty member Charlotte Boettiger, Ph.D. Boettiger, assistant professor in Psychology, brings an extensive knowledge of imaging research as it relates to patients with substance and alcohol abuse disorders.

Boettiger's Cognitive and Addiction Biopsychology Laboratory studies the problem of addiction from a cognitive perspective. The goal is to determine how certain cognitive processes differ in people with a personal or family history of addiction and to study the cognitive effects of addiction treatments.

The lab's research focuses on three areas of cognition: reinforcement-based association learning, selection bias for immediate rewards, and abnormal attention to addiction-related information. Since breaking old habits is essential in recovery from addiction, Boettiger and her team investigate how we form and break habits by studying how the brain enables us to learn and replace stimulus-response associations.

"We know that addiction is associated with the tendency to choose immediate rewards over larger, delayed rewards. Our work focuses on establishing the neurobiological mechanisms that cause this tendency to choose 'now' over 'later,'" said Boettiger.

Using MRI, Boettiger is able to capture snapshots of brain activity over time in those suffering from substance and alcohol use disorders. She is currently collaborating with CAS faculty member JC Garbutt, M.D., on a clinical trial designed to determine whether the medications baclofen and naltrexone reduce drinking. Boettiger's team is testing whether medications change patients' decision-making and attention.

Additionally, Boettiger will be collaborating with Garbutt's team in a study to identify factors that predict problem drinking among college-age people. The team will test participants' performance in a decision-making task that differentiates between adults with and without a history of alcohol use disorders.

Boettiger received her A.B. in integrative biology from the University of California (UC), Berkeley, and a Ph.D. in neuroscience from UC, San Francisco. Her postdoctoral training in neuroimaging methods took place at the Helen Wills Neuroscience Institute at UC, Berkeley. Before coming to UNC, she was an associate investigator at the Ernest Gallo Clinic and Research Center at UCSF. At UNC, Boettiger is a core faculty member in the Behavioral Neuroscience Program, the Biomedical Research Imaging Center, and the Curriculum in Neurobiology. ■



Charlotte Boettiger



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Center Line

Bowles Center for Alcohol Studies
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Our mission is to conduct, coordinate, and promote basic and clinical research on the causes, prevention, and treatment of alcoholism and alcoholic disease.

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UNC Professor Spearheads Effort to Improve Recognition and Treatment of Substance-Abuse Disorders in North Carolina

More than 23 million Americans suffer from addiction to alcohol or other drugs of abuse. As many as 25% of adult patients seen in typical primary care settings are there because of problems induced by drugs or alcohol. Experts agree that drug and alcohol abuse and addiction are best treated with medical and behavioral interventions. Sadly, fewer than 10% of individuals enrolled in addiction treatment programs are referred by physicians. Approximately 60% of referrals to addiction treatment programs are made by the criminal justice system. Dr. Robert Gwyther, Professor of Family Medicine and member of the Bowles Center for Alcohol Studies at the University of North Carolina, is working to change these grim statistics. With a longstanding interest in alcoholism, Dr. Gwyther has directed the Education Component of the Bowles Center for Alcohol Studies Center Grant for the past five years. He has been instrumental in ensuring that substance abuse and its treatment are integral parts of students' education and training in the medical school curriculum at UNC. He is also leading efforts to introduce SBIRT—*Screening, Brief Intervention, and Referral for Treatment*—to health care providers in North Carolina.

SBIRT provides a cost-effective means of identifying and helping individuals who are addicted to or at risk of addiction to alcohol. The Figure (next page) shows core components of SBIRT. Importantly, SBIRT differs from many traditional approaches to combating substance abuse that primarily target



Robert Gwyther, M.D.

individuals with established, and often severe, substance abuse disorders. SBIRT is an early-intervention approach that uses screening techniques that can identify individuals who are at risk of developing a substance-abuse disorder but do not yet meet diagnostic criteria for such a disorder as well as those in early stages of substance-abuse disorders. SBIRT is designed to complement, rather than replace, specialized treatment.

SBIRT can be implemented in various environments and is useful in numerous healthcare settings. For example, trauma centers see many individuals with problems with alcohol. Based in part on findings suggesting that screening and brief interventions for alcohol problems in the trauma setting reduce subsequent alcohol abuse, the American College of Surgeons' Committee on Trauma has

instituted requirements mandating that Level I and Level II trauma centers have a means of screening for problem drinkers and that Level I trauma centers can provide brief interventions for patients who screen positive for problem drinking. Colleges and universities are another setting where healthcare providers are likely to encounter people at risk of substance abuse or with established substance-abuse disorders. Several screening and brief intervention projects funded by the US Department of Health and Human Services Substance Abuse and Mental Health Services Administration Center (SAMHSA) are being undertaken at colleges throughout the United States. These projects work within the student healthcare system to identify and assist students with dangerous drinking behavior or substance-abuse disorders.

Dr. Gwyther is particularly interested in extending SBIRT to the primary care setting in North Carolina. Primary care clinicians, who are consulted by the cross-section of individuals in communities, are ideally positioned to identify those at risk or those having substance-abuse disorders and to initiate effective intervention. In 2004, the US Preventive Services Task Force, which operates under the auspices of the Agency for Healthcare Research and Quality, recommended that primary care providers perform screening and behavioral counseling interventions to reduce alcohol abuse. The Task Force based its recommendations on two encouraging findings. First, screening in



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Education and Training

Fellowship in Family Medicine and Alcohol/Drug Abuse, University of North Carolina at Chapel Hill. M.D., Medical College of Ohio, Toledo, 1975; M.B.A. in Management, Case Western Reserve University, Cleveland, OH, 1968; A.B. in Chemistry, Adelbert College (Case Western Reserve University), 1966.

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primary care can identify individuals whose drinking behavior puts them at risk of alcohol-related morbidity and mortality. Such screening can identify at-risk individuals early on the path to alcohol abuse and/or addiction—before their behavior meets criteria for alcohol dependence. Second, brief behavioral counseling of at-risk individuals can reduce alcohol consumption, an effect that has been demonstrated to last as long as 48 months. Other research demonstrates that screening and brief intervention in primary care are cost effective both to the healthcare system and society. SBIRT saves the healthcare system and society an estimated \$6 to \$7 for every \$1 invested.

Until the recent demonstration of SBIRT's cost-effectiveness, third-party payers resisted reimbursement of primary care providers for performing SBIRT. With the recognition of SBIRT's cost-effectiveness has come a movement, happening both nationally and in North Carolina, to ensure that healthcare providers who offer SBIRT can be paid for it. For example, North Carolina's Institute of Medicine Task Force on Substance Abuse recently recommended to the legislature that North Carolina consider requiring insurers to cover SBIRT. "The time is ripe to enable North Carolina's primary care clinicians to practice SBIRT," says Dr. Gwyther. "We have made progress in recent years toward

getting primary care clinicians the opportunity to code and bill for providing SBIRT. Provision of SBIRT is likely to become a measure of quality of care in physician practices. Now we have to make sure that primary care providers in North Carolina are aware of SBIRT and are equipped to practice it."

A first step in enabling primary care providers to practice SBIRT is to train them in its principles and methods. To this end, Dr. Gwyther has organized a program devoted to exploring the best methods of introducing SBIRT to primary care providers for the 10th Annual Carolinas Conference on Addiction and Recovery. The Carolinas Conference, which is presented by UNC's Bowles Center for Alcohol Studies and the Addiction Recovery Institute based in Tryon, North Carolina, will be held October 28-31 in Chapel Hill. The session on SBIRT, to occur on October 31, will include a morning of lectures by experts in SBIRT and an afternoon workshop devoted to developing the best means of training primary care clinicians and other healthcare providers in SBIRT. Speakers for the morning session include Mark Willenbring, MD, Director of the Treatment and Recovery Research Division of the National Institute of Alcohol Abuse and Alcoholism, who will speak on the topic of *Alcoholism Isn't What It Used to Be*; Mike Fleming, MD, of the University of Wisconsin Department



The Director's Column

Fulton T. Crews, Ph.D.
Director,
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Alcohol Studies

Prevention and treatment of alcohol problems need a new structure. Although almost all experts in the addiction field agree that alcohol dependence needs to be treated like a chronic disease, the separation of substance abuse treatment from primary medical care prevents this approach. At UNC, we have struggled with how to bring the primary medical care community into partnerships with substance abuse counselors who most often treat addiction. Addiction treatment clinics tend to have few referrals from physicians but many from the judicial system, which is not structured to prevent or deal with chronic disease. Many chronic diseases such as diabetes or heart disease have a structure of primary medical care that treats risk for disease as well as the disease itself.

Recent advances in understanding alcohol problems have indicated that binge drinking (5+ male /4+ female drinks in 2 hours) and heavy drinking (5+/4+ drinks/day) are high risk factors for alcohol dependence, accidental death, violence, suicide, liver disease, various cancers, cardiovascular disease, pancreatitis and dementia. Reducing risk for diabetes and heart disease are major public health efforts that involve primary care physicians who check your weight and blood pressure, ask if you smoke and exercise, and treat patients who do not have disease to reduce the risk of getting disease. This can and should be done for alcohol abuse and dependence risk. It will require public health efforts, however, to change attitudes of

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of Family Medicine, who will speak on *Primary Care and SBIRT*; and Adam Goldstein, MD, of UNC's Department of Family Medicine, who will speak on *The Roles of Education, Regulation, Legislation and Litigation in Reducing Tobacco and Alcohol Consumption*.

Dr. Gwyther has organized a special workshop following the SBIRT session. This workshop will focus on developing the best means of training North Carolina healthcare providers in SBIRT. Experts involved in identifying and treating individuals with substance abuse will convene to discuss and develop tailored models for training and implementation of SBIRT in various settings including primary care practices, emergency rooms, and relevant inpatient services. "At this point, we envision developing teams of trainers across the state who can educate physicians in their local areas about SBIRT," says Dr. Gwyther. "These cross-disciplinary training teams could include physicians, substance-abuse counselors, and office managers as well as others involved in the recognition and treatment of addiction. We hope to leave the meeting on October 31 with some solid proposals on moving forward with 'Training the Trainers' who will educate our physicians in North Carolina about SBIRT. We're looking forward to a productive discussion that will ultimately contribute to improving

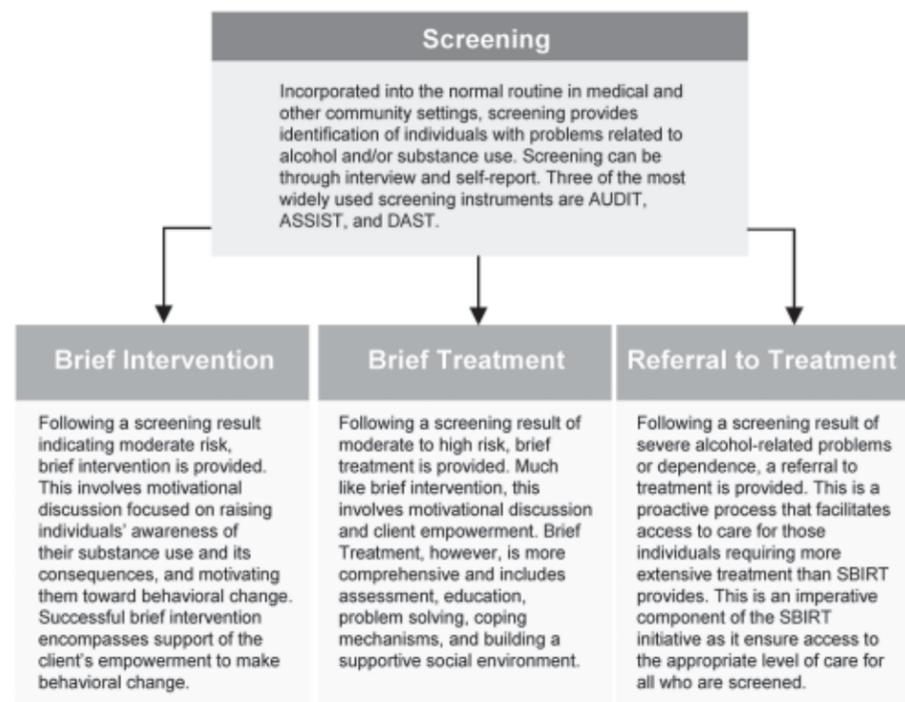
physicians and the general public. Studies have shown that frequency of risky drinking and average daily alcohol intake are good predictors of risk for more severe alcohol problems. The predictability and probability of alcohol use disorder symptoms increase with increased daily intake and frequency of heavy drinking to criteria for abuse and dependence, e.g. quit control, withdrawal, time spent, use despite problems, neglect roles and legal issues. Legal issues usually indicate severe problems. Currently, legal issues and the judicial system are our major referral source for substance abuse clinics. These are individuals who have alcohol use disorder and need treatment. But we are not treating risk!

Studies suggest that if adolescent alcohol exposure is reduced, large groups of individuals will be protected. Furthermore, if binge and heavy drinking in those over 21 are reduced, we will protect large numbers of individuals from progressing to disease. Primary care physicians have been very powerful in reducing smoking, because it increases risk for lung cancer and heart disease. The nation is concerned about obesity because of risk for diabetes and heart disease. Binge and heavy drinking also have high risks and the power of primary care intervention is significant. We need to involve the primary care physician in reducing risk for alcohol use problems. Primary care often involves the entire family and family involvement in risk reduction can be particularly powerful and effective. Further, if physician intervention fails, physicians should have a referral structure to substance abuse treatment professionals who devote their lives to helping the afflicted and are experts at behavioral change. We are hopeful that we can make this happen in North Carolina and the impact of its success will spread across America and the World. ■

the quality of care for patients with substance-abuse disorders or at risk of substance abuse in our state." ■

Figure: Core Components of SBIRT. From the US Department of Health and Human Services Substance Abuse and Mental Health Services Administration Center for Substance Abuse and Treatment.

Available at http://sbirt.samhsa.gov/core_comp/index.htm



**Carolinas Conference on
Addiction and Recovery
October 28-31, 2008**

***"Integrative Care:
A Holistic Approach to Recovery."***

The Carolinas Conference on Addiction and Recovery is jointly presented by the UNC-CH Bowles Center for Alcohol Studies and Addiction Recovery Institute, Tryon, NC.

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