REDCap Workshop by CentIT2 Staff

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Dr. José G. Conde, RCMI Program Director and Director of the Center for Information Technologies and Telecommunications (CentIT2), and Ms. Brenda Nieves, Systems Programmer at CentIT2, gave a workshop about the Research Electronic Data Capture system (REDCap) on Wednesday, October 26, 2011, at the School of Public Health. During the workshop, Dr. Conde gave a general overview of REDCap’s capabilities and design philosophy. Ms. Nieves performed a live demonstration of the system and explained REDCap’s operation to attendees. Twenty-four faculty, research support personnel and students participated in this activity, which was co-sponsored by the Puerto Rico Comprehensive Cancer Center.

The REDCap Consortium is comprised of 289 active institutional partners from CTSA, GCRC, RCMI and other institutions, and it supports a secure web application designed exclusively to support data capture for research studies. The REDCap application allows users to build and manage online surveys and databases quickly and securely, and is currently in production use or development build-status for more than 23,260 studies with over 33,520 end-users spanning numerous research focus areas across the consortium.

REDCap is a secure web application for building and managing online surveys and databases. Using REDCap's stream-lined process for rapidly developing projects, you may create and design projects using 1) the online method from your web browser using the Online Designer; and/or 2) the offline method by constructing a 'data dictionary' template file in Microsoft Excel, which can be later uploaded into REDCap. Both surveys and databases (or a mixture of the two) can be built using these methods. REDCap provides audit trails for tracking data manipulation and user activity, as well as automated export procedures for seamless data downloads to Excel, PDF, and common

cont. on pg. 3
Dr. Curley L. Bonds

People with diabetes face challenges every day. The difficulties of managing potential risk of obesity, counting calories, keeping doctor’s appointments and attending to self care cause stress. That stress might be building the foundation for another illness: depression.

Dr. Curley Bonds, Associate Professor at Charles Drew University and Health Sciences Clinical Professor at UCLA, is uncovering the link between depression and diabetes. “It is a two way street with diabetes and depression,” he said. “People that have genetic predisposition to diabetes can have depression. Diabetes affects all organs including the brain, through decreased blood flow and neuropathy (nerve damage).”

Dr. Bonds observed that the list of tasks that a diabetes patient needs to follow for proper selfcare falls off during depression. When each day becomes a struggle, the will to live is gone and treating diabetes isn’t worth the effort. Dr. Curley Bonds is the chair of Psychiatry and Human Behavior at Charles Drew University and the Medical Director at Didi Hirsch Mental Health Services. He served as the Director of the Consultation and Evaluation Service for the UCLA Center for Health Sciences before coming to CDU in 2005. Depression intrigued Dr. Bonds from a young age. He said having a close family member with the illness drew him to become a resident advisor in his dorm. In that position he enjoyed helping his fellow students through counseling. In medical school, studying the brain fascinated him. “It was something I enjoyed and had an affinity to,” said Dr. Bonds.

Dr. Bonds observed that psychiatry is an under populated specialty because it is not the first choice for many medical students. As a result, patients seeking care may have difficulty finding a provider. The problem is amplified in medically underserved communities. “I think especially for minority communities there is a stigma associated with acknowledging that you have any type of mental health problem,” said Dr. Bonds. “Whether it is depression or substance abuse.”

Dr. Curley Bonds Depression affects between 20-25 percent of all people at some point in their life, Dr. Bonds said. People who don’t have access to counseling or delay treatment of their depression because of a sense of shame tend to end up with more complex illnesses. By the time they get care, they may have already lost their jobs and alienated themselves from their friends and family. “People think of depression as being a weakness, or some sort of spiritual failing,” he said. “They think if they pray hard enough or exercise they can treat it on their own.” Depression complicates treatment for people with diabetes. “Depression is a cognitive illness,” explained Dr. Bonds. “So if a regimen is complex—involving different medications at different times of the day, before or after a meal—it can be hard to follow if you are not thinking clearly.”

Some drug-drug interactions can also complicate diabetes. Psychiatric medicines

cont. on pg. 3
Dr. Curley L. Bonds

continued from page 2  that cause weight gain or weight loss can also complicate diabetes. Drug-drug interactions between medicine for depression and medicines for diabetes add another layer of complexity. Dr. Bonds works to address that problem. In a 2009 study, Bonds and a group of CDU researchers demonstrated that pharmacological treatment of depression improved systolic blood pressure and levels of blood glucose in subjects. With UCLA and the Didi Hirsch Mental Health Services, Dr. Bonds is part of a team developing a project to help people with mental illness make medical decisions. “The goal is to develop a training program to support patients when they come into the doctor,” Dr. Bonds said. “It is helping consumers ask the right questions so they can arrive at the right answers.”

Dr. Bonds is also working with researchers to create an online resource to help patients with mental health problems with support from UCLA, CDU and Didi Hirsch.

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continued from page 1  statistical packages (SPSS, SAS, Stata, R). Also included are a built-in project calendar, a scheduling module, ad hoc reporting tools, and advanced features, such as branching logic, file uploading, and calculated fields. REDCap has a quick and easy software installation process, so that you can get REDCap running and fully functional in a matter of minutes.

The overall goal of CentIT2 is to provide specialized information technology services to support research, professional development and global interactions at the University of Puerto Rico Medical Sciences Campus. It is part of the Center for Collaborative Research in Health Disparities, which is funded by RCMI grant G12RR03051.

Understanding Genetic Admixture and its Implications for Complex Diseases

Dr. Rick Kittles, Associate Professor of Medicine and Epidemiology and Biostatistics at the University of Illinois in Chicago (UIC) and Dr. Margarita Irizarry Ramírez, Key Function leader for Collaboration and Partnerships and Professor at Medical Sciences Campus (MSC) of the University of Puerto Rico (UPR), gave a workshop on Genetic Admixture on Thursday, February 9, 2012. The workshop was offered using the Multimedia Classrooms of the Conrado Asenjo Library of the MSC. This activity was sponsored by the Puerto Rico Clinical and Translational Research Consortium (PRCTRC) and Co sponsored by the Puerto Rico Comprehensive Cancer Center (PRCCC) and the Deanship for Academic Affairs of the MSC.

The workshop was attended by faculty members, clinicians and basic scientists, from the three institutions of the PRCTRC. In addition there were other attendees from other campuses of the UPR, including one undergraduate and several graduate students.

The workshop organizers divided the experience in two sections. Theoretical aspects and clinical applications were discussed during the morning session, followed by a hands-on experience geared towards the determination of genetic admixture in populations.

Three main topics were presented by Dr. Rick Kittles during the morning: Genetic Markers and Variation, Human Population Variation and Methodological Issues for the Determination of Genetic Admixture. Some highlights of his presentations were the practical definition of polymorphisms and of Ancestry Informative Markers (AIMS). Examples of

cont. on pg. 4
the variation on genetic ancestry in the US Population were presented. The need to understand the influence of genetic ancestry as a foundation for the deconstruction of race and its role in health disparities” was documented with a variety of cases presented by Dr. Kittles. Of utmost importance was Dr. Kittles presentation on the “Statistical Method to Infer Ancestry and Control for Population Genetic Structure”. In this section, there was ample discussion on population stratification and confounding factors when studying markers in a region possibly linked to a disease locus, especially when trying to establish association among loci and disease phenotype.

Dr. Margarita Irizarry-Ramírez presented the topic of Genetic Admixture : Practical Implications in Disease’s Studies. In her presentation Dr. Irizarry Ramírez, highlighted the need to include admixture studies results in heterogeneous populations when considering treatments options and diagnosis. Specific examples were presented of complex diseases such as cancers, asthma and diabetes, that have been shown to express ethnic related phenotypes. A special section was devoted to Puerto Rico’s population admixture and examples on how it influences the phenotype of diseases.

This activity was supported by 8U54MD007587-03 from the National Institute on Minority Health and Health Disparities (NIMHD),and U54 CA96300 from NCI

**Meharry Translational Research Center (MeTRC) Announces Third Round of Awards**

On December 8, 2011, Meharry Translational Research Center (MeTRC) announced its third round of award recipients. In the third round MeTRC has funded five projects totaling $450,000. To date MeTRC has provided $2.1 million in research support.

MeTRC congratulates:

**Stephania Miller-Hughes, Ph.D.**  
“Community Partnership to Reduce the Diabetes/Obesity Burden among African American Women in Nashville, TN” - $150,000 Award

**Stella Nowicki, D.D.S.**  
“CD55, Vitamin D3 & Race in Preterm Labor” - $150,000 Award

**Kushal Patel, Ph.D.**  
“A Questionnaire to Assess Biospecimen Donation among African Americans” - $50,000 Award

**Uma Rao, M.D.**  
“Coping with Interpersonal Violence in African-American Women” $50,000 Award

**Anil Shanker, Ph.D.**  
“Improving NK Cell Adoptive Immunotherapy in Breast Cancer by Combinatorial Bortezomib and Notch DLL1 Treatments” - $50,000 Award
AXIS Core Functions Have Local and National Successes

We have lots of successes happening at AXIS (Accelerating Excellence in Translational Science) at Charles R. Drew University.

The Director of the Biomedical Informatics Core, Dr. Lola Ogunyemi, received a $20,000 grant from the Agency for Healthcare Research and Quality’s (AHRQ) Knowledge Transfer Program, Academy Health. This grant will allow her to author a commissioned paper with collaborators/co-authors from RAND, UC Irvine and UC San Diego. The paper will examine the challenges associated with representing and mapping data for analysis in comparative effectiveness research studies that use prospective data taken from electronic health records (EHRs) and medical claims databases. Drawing on experiences gained from the SCALable National Network for Effectiveness Research (SCANNER) project, the paper will compare the strengths and weaknesses of existing data modeling standards that can be used for analysis. It will outline a rationale for adopting a common or reference data model, assess the impact of having a common data model on the approach to data collection, mediation, and exchange, and present generalizable/reusable methods and lessons learned that will be of benefit to both CER researchers and clinical informaticians. Using a finite set of data elements related to comparative effectiveness research and simulated data modeled on actual data drawn from several institutions, the paper will also present an evaluation of the modeling challenges and data/information loss that can occur when using existing standards such as OMOP, ADaM, and the BRIDG model.

The Regulatory Core of AXIS joined the PARO (Post-Approval Research Oversight) Committee that is a part of Regulatory Knowledge and Support system of the UCLA CTSI. PARO is responsible for enhancing research quality and safety by providing CTSI-wide clinical research compliance through Quality Assurance (QA) for investigators and responsible agencies, for data safety monitoring processes and advocacy for research participants. This committee focuses on improving research quality and efficiency by harmonizing post-approval research processes across the CTSI. Research compliance officers and QA staff are collaborating on standards for excellence in compliance, including conflict of interest and budgeting/billing, subject advocacy, and other assurances including HIPAA. Currently, the group is working on harmonization efforts to improve the consistency of Data Safety Monitoring Plan (DSMP) reporting standards among partner institutions at UCLA Center for the Health Sciences, Harbor UCLA and Cedars-Sinai Medical Center which will reduce the reporting burden for investigators conducting multi-institutional studies. Four forms being used regularly at CDU are being considered as the standard for the CTSI-PARO committee. For more information about the Regulatory Core, go to: http://axis.cdrewu.edu/functions/regulatory/regulatory. For more information about the Post-Approval Research Oversight committee, go to: http://www.ctsi.ucla.edu/support/paro/.

The AXIS Pilot Program has announced 5 new pilot grantees for 2012. Congratulations to: Dr. Bita Amani who will be studying Health Disparities Among Formerly Incarcerated Youth of Color in Los Angeles, Dr. Homero del Pino who will be studying the Differences in Family Support for Alcohol Recovery between Younger and Older Gay Latino Men, Dr. Stanley Hsia who will be studying Exergaming in the Treatment of Adult Patients with Type 2 Diabetes Mellitus: Extension of Final Assessments, Dr. Satyesh Sinha who will be studying the Effect of M-CSF/GM-CSF Ratio on Macrophage Polarization in Diabetic Nephropathy and Dr. Yanyuan Wu who will be studying The Role of Maspin in Regulation of EMT and Inhibition of Tumorogenesis in HER2 Overexpressing Breast Tumors. To learn more about the Pilot Program, go to: http://axis.cdrewu.edu/functions/pilot-program/pilot-program.

AXIS Concierge has launched the new Research Resource Spotlight Series. Over the next several months, CDU’s science navigators will be publishing a series of “Spotlights” on all the offices and departments at CDU that support researchers. The first Spotlight is on the Office of Sponsored Programs. You can check out the entire Spotlight on OSP online at: http://axis.cdrewu.edu/axis_doc/functions/AXIS/OSP_Spotlight.pdf Upcoming Spotlights include Office for the Protection of Human Subjects, Research Operations, Finance, Library, Human Relations and more.