Autumn/Winter 2009

Update is a periodic look at SSS staff research activities, new awards, corporate news and recognition, and upcoming conferences. For additional information on SSS projects, visit our Web site.

Research Activities

Genetic Map for Rice Aids Fight Against Hunger
A paper, based on his work in computational genomics, was co-authored by SSS researcher Greg Wilson and published in *Theoretical and Applied Genetics*. The results of this research have significant implications to the World Health Organization in its campaign to fight hunger in developing countries.  
http://www.springerlink.com/content/81842175hh4l8133/fulltext.pdf?page=1

Recruiting Older African Americans into Behavioral Intervention Studies
SSS researcher Deborah Scott was one of the authors of an article in the *Journal of the National Medical Association* on effective community-based strategies used in recruiting older African Americans into a behavioral intervention study.  

Incremental Cost Estimates for the Patient-Centered Medical Home
SSS senior research scientist Katie Merrell was one of the authors of an article published in *The Commonwealth Fund* detailing the cost of the medical home approach to organizing primary care practices. Despite wide and growing interest in this approach, little is known about the costs it entails.  

SAS Survey Procedures for Handling Missing Data
A paper about the options for analysis of missing survey data was presented at the NorthEast SAS Users Group (NESUG) Conference by SSS researcher Dr. Paul Gorrell.

Identifying People with Epilepsy in Epidemiologic or Genetic Studies
A paper describing a nine-question screening instrument for epilepsy administered by telephone to individuals with and without a history of seizure included SSS researcher Dr. Christie Barker-Cummings as one of the authors. It was published in the journal *Epilepsia*.  

FDA and Manufacturers Collaborate in Patient Safety Operation
A paper on how FDA and SSS enrolled a sample of 350 hospitals and other facilities in a confidential online enhanced post-market surveillance system to report problems seen with medical devices and human cells and tissues was co-presented at the American Public Health Association (APHA) annual meeting by SSS researcher Mary Anne Hardy with Carol Simmons (formerly SSS, who is now with the U.S. Food and Drug Administration [FDA]).  
http://apha.confex.com/apha/137am/webprogram/Paper207646.html
SAS Utility for Easily Locating Log Error and Warning Messages
A paper describing how to create and install a simple program to find SAS error or warning messages quickly and easily was presented by SSS researchers Zhengyi Fang and Dr. Paul Gorrell at the NESUG Conference.

Improving HIV/AIDS Clinical Research in Resource Limited Settings
A poster reporting on the results of the AIDS Clinical Trials Group (ACTG) international laboratory External Quality Assessment monitoring program included as authors SSS researchers Dr. Akbar Shahkolahi, Linda Berman, Dr. Yvette Delph, Nikki Gettinger, Kristi Kaiss, Errance Meeks, Elizabeth O’Keefe, and Lisa Patton, and was presented by Dr. Shahkolahi at the 5th International AIDS Society Conference on Pathogenesis, Treatment, and Prevention in Cape Town, South Africa.

Systematic Approach To Tracking Regulatory Data
SSS researcher Dr. Pam Schwingl was one of the authors of a poster that was presented at the 2009 Advancing Ethical Research Conference that discusses a regulatory database developed by SSS to track the regulatory process for multiple projects and multiple institutions.

Home-based Care Workers Collect Epidemiologic Data on Pregnancy Loss
A poster which included as authors SSS researchers Janet Archer, Mwenda Kudumu, and Dr. Pamela Schwingl, was presented at the APHA annual meeting. The poster discusses SSS’ pilot approach to using home-based care workers in an epidemiologic study of pregnancy loss among women from eight rural South African villages.

Database Tracks Assay Results
SSS researchers Diana Smith, Heather Carroll, Susan Baker, Cynthia Kleeberger, and Dr. Pamela Schwingl were the authors of a poster presented at the 2009 meeting of the International Society for Biological and Environmental Repositories. The poster discusses an assay database developed by SSS for the purpose of tracking assay results and providing reports and summaries of metadata in a system used by nonprogrammers and programmers alike.

Quality Improvement in Health Care
A presentation on important historical influences of evidence-based quality improvement, critical challenges to quality improvement, and approaches to integrating quality improvement and community health planning was given by SSS researcher Bill Freeman and Ernest Moy of the Agency for Healthcare Research and Quality at the APHA annual conference.
http://apha.confex.com/apha/137am/webprogram/Paper207250.html

Comprehensive System for Managing Biobanking Operations
An oral presentation by SSS Sister Study Laboratory Director Cynthia Kleeberger, addressing the development of improved field sample collection methods, was given at the 2009 Biobanking Conference.

Improved Prevalence Estimates for Autoimmune Diseases
A study in which SSS researcher Milele Bynum participated, examined recent studies on the prevalence of 29 autoimmune diseases. These data were used to correct for the underreporting of

**Standard Experimental Design Improves Collaboration and Comparison**

An article discussing the establishment of standard experimental design that will allow scientific collaborations and comparisons of results between laboratories was co-authored by SSS researcher Cynthia Kleeberger and published in *Cancer Epidemiology, Biomarkers & Prevention*.

**Pesticide Exposure during Pregnancy and Risk of Hypertension**

An article published in *Environmental Health Perspectives* describing a study to examine whether pesticide exposure during pregnancy was associated with hypertensive disorders of pregnancy included SSS research analyst Dr. Tina Saldaña as one of the authors. The article relates to the Agricultural Health Study cohort, on which numerous SSS-supported National Institute of Environmental Health Sciences (NIEHS) studies are focused.  [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2737015/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2737015/)

**Relative Performance of Drug Combinations for Antiretroviral Therapy (ART)**

The results of a study published in the *New England Journal of Medicine* indicate that of two commonly used drug combinations for ART, the tenofovir plus emtricitabine combination works better in a subgroup of treatment-naïve individuals. Nasreen Jahed, an SSS researcher, is one of the authors of this major studies conducted by the ACTG, a project supported by SSS since 1987, with funding from the National Institute of Allergy and Infectious Diseases (NIAID).  [http://www3.niaid.nih.gov/news/newsreleases/2009/TenofovirEmtricitabine.htm](http://www3.niaid.nih.gov/news/newsreleases/2009/TenofovirEmtricitabine.htm)

**Sister Study Exceeds Recruitment Goal**

The NIEHS Sister Study began recruiting women during Breast Cancer Awareness month in October 2004, and this October reached a milestone as detailed in a recent press release. The study recruited nearly 51,000 women whose sisters had breast cancer to participate in this long-term study that is focusing on uncovering environmental and genetic factors that influence breast cancer risk. SSS supports the Sister Study, and had a significant role in the study’s recruitment efforts.

**Telomere Length and Weight Gain**

An article, based on data reported out of SSS’ NIEHS-funded Sister Study, describes research into the association between anthropometric characteristics and telomere length in blood as it relates to cancer growth. It was published in *Cancer Epidemiology, Biomarkers & Prevention*.  [http://www.ncbi.nlm.nih.gov/pubmed/19273484](http://www.ncbi.nlm.nih.gov/pubmed/19273484)

**Telomere Length and Stress in Women**


**Breast Cancer Risk Perception and Lifestyle Behaviors**

This study, published in *Cancer Nursing*, was supported by data from SSS’ NIEHS-funded Sister Study and explored factors involved in the formulation of perceived breast cancer risk and associations between risk perception and lifestyle behaviors in white and black women with a family history of breast cancer.  [http://www.ncbi.nlm.nih.gov/pubmed/19444084](http://www.ncbi.nlm.nih.gov/pubmed/19444084)
**Chromosome Linked to Asthma in Children Identified**

An article published in the journal *PLoS Genetics* details novel candidate genes that have been identified for various complex diseases, most notable asthma in Mexican children, using genome-wide association studies.  

**Genetic Risk Factor for Facial Clefting**

An article describing the process of identifying fetal genetic risk factors for clefting was published in *PLoS ONE*. Facial clefts are common birth defects with a strong genetic component. This work is supported by SSS’ NIEHS-funded Norway Clefts Study.  

**Microdeletions in Candidate Genes for Cleft Lip and Palate**

An article about a gene analysis for orofacial clefting, using 2,823 samples from 725 two- and three-generation families having cleft lip with or without cleft palate, was published in *Birth Defects Research Part A: Clinical and Molecular Teratology*. The information was collected with help from SSS’ NIEHS-funded Norway Clefts Study.  

**Metabolites of Pesticides, Phthalates, and Bisphenol A in Pregnant Women**

An article, based on a study of 110 pregnant women in the Norwegian Mother and Child Birth Cohort, was published in the *International Journal of Hygiene and Environmental Health*. Higher levels of these metabolites in the participants may have been from pesticide residues in food, consumption of canned food (especially seafood), and use of personal care products.  

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**New Awards**

**Provide Statistical Programming Support to National Institute on Aging (NIA)**

SSS was awarded this contract to provide data management and analysis support to the NIA-sponsored Epidemiology, Demography, and Biometry Program which plans, conducts, and directs research and training.

**Provide Administrative Support for the Presidential Advisory Council On HIV/AIDS (PACHA) and Web Development for the Office of AIDS Research (OAR)**

SSS won a contract to develop an intranet and to provide support for the Administrative Information Systems Manual and the Wellness Initiative.

**Evaluate the Quality of Medical and Health Information**

SSS was awarded a contract with the National Center for Health Statistics to evaluate the quality of medical and health information reported on the 2003 revision of the U.S. standard certificate of live birth. Under this contract, SSS will review and abstract hospital birth records.

**Provide Data Collection Support and Analytic Report Development to Maryland Health Care Commission**

As part of our continuing support of the Maryland Health Care Commission, SSS received this contract to maintain and expand data submissions from payers. SSS will coordinate data collection and edit and organize information on health services to make the data usable for public reporting.
Analyze Medicare Part D Formularies for the Medicare Payment Advisory Commission (MedPAC)
Under a subcontract to NORC, SSS will compare Part D formularies using plans’ monthly formulary submissions, plan benefit data, enrollment data, and information from the Medicare plan finder tool for MedPAC.

Study Rural Health Services for Health Resources and Services Administration (HRSA)
SSS will assist HRSA in reaching its goal of increasing understanding of the relationship between the characteristics of rural nurse leaders, the rural hospital safety and quality culture, and patient outcomes in rural hospitals.

Enhance and Maintain NIH’s Undergraduate Scholarship Program (UGSP) Web Site
SSS will provide technical support in developing and deploying new Internet functions and enhance and maintain the UGSP Web site infrastructure.

Corporate News and Recognition

Susan Griffey, Dr.ph., B.S.N., F.N.P., was the first recipient of APHA’s Student Assembly Public Health Mentoring Award. The award recognizes the essential role of mentoring in public health and leadership development. Dr. Griffey is vice president and director of the Public Health Research Group’s Evaluation Center at SSS. http://www.apha.org/about/awards/09awardrecips/09studentassembly.htm

SSS won five graphic design awards in 2009, including three American Graphic Design Awards—one each for two posters designed for FDA’s MedSun project and one for a logo designed for the NIH Office of AIDS Research (OAR). The nationwide American Graphic Design Awards competition received more than 8,000 entries, with SSS’ entries among the 15 percent garnering honors.

The Silver Spring office of SSS was certified as a Green Business by the Montgomery County Department of Environmental Protection. SSS hosted the press conference and awards ceremony. The voluntary Green Business Certification Program, focused on business operations and policies, is designed to help businesses and their customers reduce their ecological footprint while benefiting financially.

The Carolinas Chapter of the ESOP Association recently honored SSS employee-owner Nick Verna as its corporate member of the year at their annual ESOP Conference in Pinehurst, North Carolina. The 2-day event featured 10 speakers and included a golf tournament that raised funds for the Employee Ownership Foundation. Nick ran the golf tournament and gave two presentations at the event.
Abstracts
The SSS authors of the research described in the Research Activities section provided the following summaries.

Survey Analysis: Options for Missing Data

Paul Gorrell

NorthEast SAS Users Group (NESUG) Conference

A common situation researchers face when working with survey data is the analysis of missing data, often due to nonresponse. In addition to missing values for analysis variables, SAS® excludes observations if the WEIGHT or any of the design variables (STRATA, CLUSTER, DOMAIN) have missing values. This paper discusses two options available with the SAS survey procedures (e.g., SURVEYFREQ, SURVEYMEANS): the MISSING option and the NOMCAR option. The MISSING option is used with categorical variables to instruct SAS to treat missing values as a valid category. The NOMCAR option (new with version 9.2) is used when the default assumption that missing values for analysis variables are missing completely at random (i.e., the group of nonrespondents do not differ in any relevant respect from the group of respondents) is not appropriate. Use of the NOMCAR option instructs SAS to perform a domain analysis of missing and nonmissing values. Specific examples will be used to illustrate the effect of the use of these two options for variance estimation and the computation of confidence limits.

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A Utility Program for Quickly Identifying Log Error or Warning Messages

Zhengyi Fang and Paul Gorrell

NorthEast SAS Users Group (NESUG) Conference

This paper describes to readers how to create and install a utility program that will allow Windows users to find SAS error or warning messages quickly and easily by right-clicking the LOG file in Windows Explorer. All and only LOG lines containing 'error:', 'warning:', 'uninitialized', or other specified strings can be displayed in a DOS prompt. A one-line batch file (called, for example, checklog.bat) is all that needs to be created. Installation of this utility program is very simple. In fact, it is as simple as adding a new item to the right-click menu in Windows Explorer for the SAS log file. Each step in creating and using this file is demonstrated.

A Systematic Approach To Tracking Regulatory Data

O’Connell E (SSS), Lein S (SSS), Ragan NB, Schwingl P (SSS)

Poster presentation for the 2009 Advancing Ethical Research Conference

Poster presentation for the conference sponsored by Public Responsibility in Medicine and Research (PRIM&R). Discusses an MS Access Regulatory database developed by SSS to track the regulatory process for multiple projects and multiple institutions.

At the Heart of Research: Training CHWs to Collect Epidemiologic Data

Janet Archer (SSS), Mwenda Kudumu (SSS), Pamela Schwingl (SSS), R. Bornman

Poster presentation for the 2009 American Public Health Association (APHA) annual meeting

This poster discusses SSS’ pilot approach to using home-based care workers (HBCWs) in an epidemiologic study of pregnancy loss among rural women 20-30 years of age from eight South African villages.
A Meta-Data Approach To Tracking Laboratory Assays
D. Smith, H. Carroll, S. Baker, C. Kleeberger (SSS), B. Ragan, P. Schwingl (SSS)
*Biopreservation and Biobanking, Volume 7, Number 1, 2009*
*ISBER Abstracts 2009 Poster Presentation for the 2009 annual meeting of the ISBER (International)*

This poster, presented at the 2009 meeting of the International Society for Biological and Environmental Repositories, discusses an assay database developed by SSS for the purpose of tracking assay results and providing reports and summaries of metadata in a system used by non-programmers and programmers alike.

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Designing a Comprehensive System To Manage Various Facets of Biobanking Operations—The Sister Study Case Sharing
Cynthia Kleeberger
*Presentation given at the 2009 Biobanking Conference*

This poster presentation discussed the development of field sample collection methods based on project objectives, reviewing and optimizing the sample transporting, developing the process and archive protocols for sample integrity, and providing quality assured and validated methods for sample security and data confidentiality.

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Human Biospecimen Research: Experimental Protocol and Quality Control Tools
Cynthia Kleeberger
*Cancer Epidemiol Biomarkers Prev* 2009; 18(4): 1017-25

This article concerns validation of clinically relevant biomarkers taking into account the potential impact of preanalytical variation on each specific biomarker. Establishment of standard experimental design described in this paper will allow scientific collaborations and comparisons of results between laboratories.

The benefits of these standard options include harmonization of research and comparability of results by different scientists; possibility of elaboration of a standard nomenclature of sample collection, processing, and storage procedures for biorepositories with common codes corresponding to the different levels of variation factors; and identification and validation of new quality control biomarkers and tools for biorepositories to fill actual biospecimen quality control gaps.

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