

# UNC Gillings School of Global Public Health Office of Research 2009–2010 Annual Report

Effective  
public health  
research benefits  
North Carolina  
and the world

This has been a very successful year for members of the UNC Gillings School of Global Public Health faculty, despite a weak economy that has resulted in shrinking pools of grant money and greater competition for the funds that are available.

Our faculty received more than \$142 million in research awards in fiscal year 2010, including approximately \$11 million from the American Recovery and Reinvestment Act of 2009. Our faculty continues to conduct innovative research that addresses many challenging health problems, with much of this research being focused on North Carolina. In 2010, more than 50 of our projects provided community services to North Carolina or had a direct economic impact on our state.

As shown by the selected examples of research presented in this report, our work is making a difference right here in North Carolina and around the

world. For more examples, please visit our website, [www.sph.unc.edu/research](http://www.sph.unc.edu/research).



**Sandra L. Martin, PhD**  
Associate Dean for Research  
Professor of Maternal and Child Health  
UNC Gillings School of Global Public Health



Dr. Sandra L. Martin



**UNC**  
GILLINGS SCHOOL OF  
GLOBAL PUBLIC HEALTH



Dollars awarded from grants and contracts to principal investigators in UNC Gillings School of Global Public Health (fiscal years ending June 30)

Members of the School's faculty were awarded more than \$142 million for grants and contracts in fiscal year 2010.

Members of our faculty work in North Carolina, the United States and around the world. Following are examples of projects that make a real difference in improving people's lives.

### North Carolina Projects

▫ **Marci Campbell, PhD**, nutrition professor, received an award from the National Center on Minority Health and Health Disparities (September 2009 – August 2011) to undertake an innovative intervention to address obesity among low-income minority women in rural North Carolina.



Dr. Marci Campbell

The “HOPE Accounts for Women” project provides matched savings accounts for low-income women while promoting behavior change and financial literacy that will help the women manage their weight and become economically empowered.

Participants may use the funds for micro-enterprise, further education and job skills training. Enhancing financial security and independence among these rural residents is expected to translate into improved health and well-being for the women and their families. (See *Carolina Public Health*, fall 2010, page 18.)

▫ **Gregory Characklis, PhD**, environmental sciences and engineering associate professor, was awarded funds from the Water Resources Research Institute (March 2010 – June 2011) to help ensure reliability of central North Carolina's water supply. Characklis works with communities and utility companies in the Research Triangle (N.C.) area to address the technical and financial challenges associated with the increasing

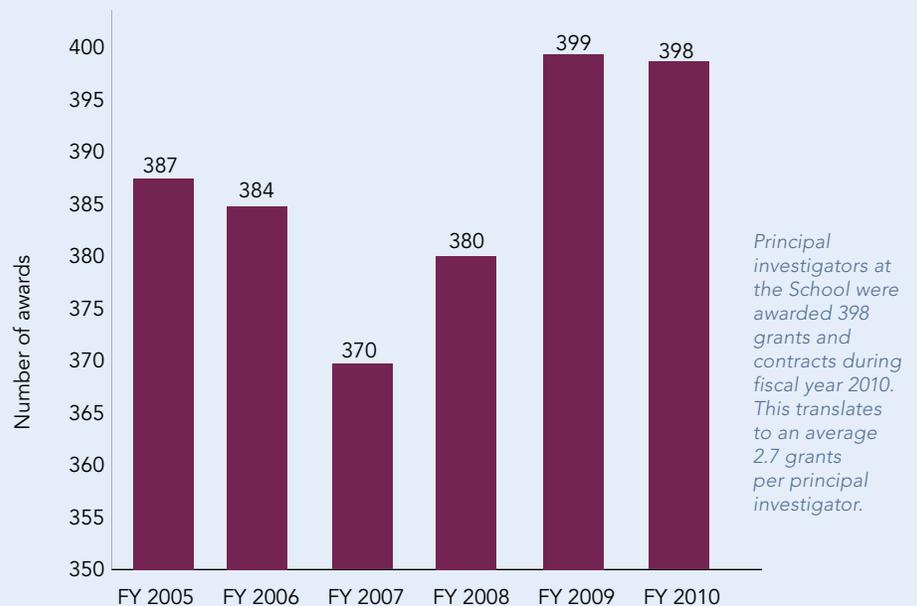


Dr. Gregory Characklis

scarcity of clean water. The project aims to help implement novel, yet cost-effective, water management strategies that recognize both the need for a reliable supply of clean water and the communities' ability to pay for it.

Characklis also is involved in projects related to hydropower generation in the

Catawba and Roanoke river basins of North Carolina. These projects, which have been supported in part with funds from the Duke Energy Foundation and the state of North Carolina, examine effects of hydropower, a renewable and carbon-neutral energy source, on ecosystem health in these basins. Characklis collaborates on these projects with Larry Band, PhD, and Martin Doyle, PhD, in the UNC Department of Geography, and Richard Whisnant, PhD, at UNC's School of Government.



Number of awards for grants and contracts to principal investigators in the School (fiscal years ending June 30)



▫ **Julie Daniels, PhD**, epidemiology and maternal and child health associate professor, in partnership with the North Carolina Department of Health and Human Services,



Dr. Julie Daniels

was awarded funding from the Centers for Disease Control and Prevention (June 2010 – May 2014) to conduct the North Carolina Autism and Developmental Disabilities Monitoring Project. The surveil-

lance system will collect information on more than 37,000 children with autism spectrum disorder and intellectual disability in 11 North Carolina counties. The project enables researchers to better estimate the number of people affected by autism and developmental disability and to better understand factors associated with the development of these problems.

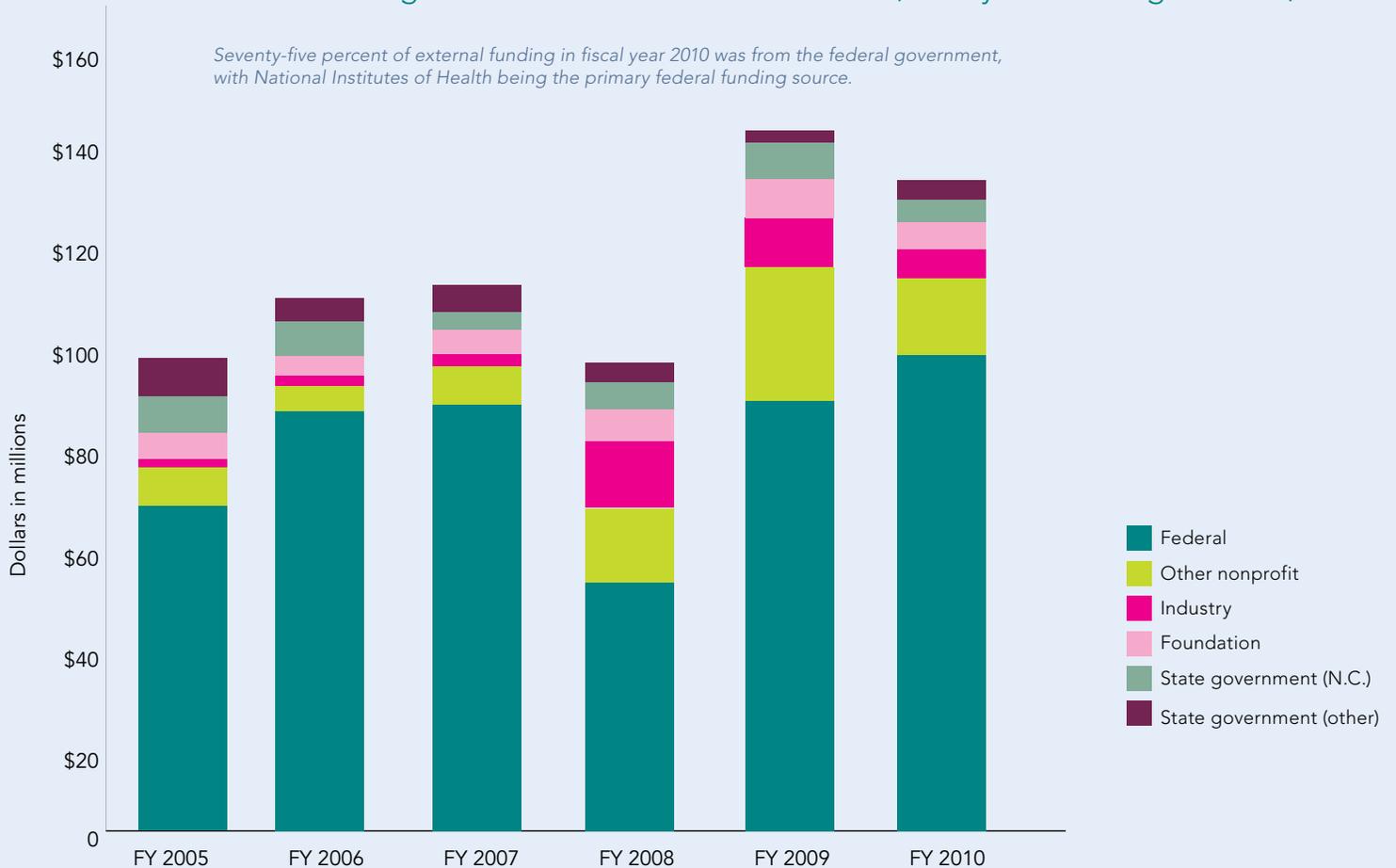
▫ **Sandra Greene, DrPH**, Professor of the Practice of health policy and management, has led management of the North Carolina medication error reporting system



Dr. Sandra Greene

since the N.C. General Assembly mandated this through legislation passed in 2003. Greene recently was awarded funding from the North Carolina Department of Health and Human Services (February 2010 – January 2012) to update online graphic technology for this reporting system, an undertaking focused on increasing the safety of patients in North Carolina nursing homes.

## Types of funding for grants and contracts awarded to principal investigators in UNC Gillings School of Global Public Health (fiscal years ending June 30)



## National and Global Projects

▫ **Michael Kosorok, PhD**, biostatistics professor and chair, received National Cancer Institute funding (April 2010 – March 2015)



Dr. Michael Kosorok

to develop highly innovative methods for cancer clinical trials. The methods will help put into practice effective new therapies. Co-principal investigators are Marie Davidian, PhD, at N.C. State University, and Stephen George, PhD, at Duke University.

▫ **Suzanne Maman, PhD**, health behavior and health education associate professor, received an award from the National Institute of Mental Health (July 2009 – December 2010), which was used to pilot an intervention to reduce HIV, violence and substance use among networks of young men in Dar es Salaam, Tanzania.



Dr. Suzanne Maman

▫ **Elizabeth Mayer-Davis, PhD**, nutrition professor, is testing the feasibility of an intervention for self-management of type 1 diabetes among low-income, minority adolescents. Funded by the National Institute of Diabetes and Digestive and Kidney Diseases (March 2010 – February 2012), the project combines cell phone communication with known effective behavioral



Dr. Elizabeth Mayer-Davis

strategies to help children better manage their disease.

▫ **Cass T. Miller, PhD, and William G. Gray, PhD**, professors in the environmental sciences and engineering department, were awarded a grant from the National Science Foundation (December 2009 – November 2013) to develop mechanistically based mathematical models of multiphase systems, which have application to public health issues such as water supply, contaminant remediation, energy production and sequestration of the greenhouse gas, carbon dioxide. Miller and Gray collaborate with colleagues in



Dr. Cass T. Miller



Dr. Bill Gray

UNC's departments of computer science and mathematics and at North Carolina State and Oregon State universities. The most recent application of their work involves collaborators from the UNC School of Medicine and from Texas and Italy, who are working together to model the growth of brain tumors.

## Distribution of the School's National Institutes of Health funding, by funding type, in fiscal year 2010

*The National Institutes of Health awarded School faculty members \$56 million in fiscal year 2010, with most funds designated for research.*

