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Research Overview

Mission:
The Texas A&M School of Public Health is committed to transforming health through interdisciplinary inquiry, innovative solutions, and development of leaders through the Aggie tradition of service to engage diverse communities worldwide.

Values:
Accountability, Meaningful Impact

G- Global and diverse: Our research crosses borders

G- Generosity: Through selfless service

I- Integrity

E- Excellence: In teaching, research, service, and practice

S- Social Justice

P- Professionals: Leaders paving the way

H- Honor Respect for all

Purpose: Research represents an integral part of the Texas A&M School of Public Health mission and activities with nearly 90% of faculty engaged in research. This report summarizes School of Public Health faculty projects, publications, presentations, and research interests during Calendar Year 2015.

Highlights: Calendar Year 2015 was a dynamic year marked by a record number of publications, significant funding, and the advent of a number of new initiatives, programs, and projects.

New Initiatives: In an effort to provide seed funding for innovative and promising research, the School of Public Health launched the inaugural Dean’s Research and Development Initiative (REDI) Program in May 2015. Awarded through a competitive application and review process, six SPH investigators received awards of $25,000 each to support their respective research projects. The inaugural grantees are included this report.

New Funding: A number of large grants and contracts were secured during the Year from diverse funders including CPRIT, HRSA, DSHS, NAS, NIH, and USDA. A few of the many awards received by SPH investigators are noted below. A full list is included this report.

Dr. Jane Bolin and Dr. David McClellan (PIs). Continuation and Expansion of Texas A&M’s Colorectal Cancer Screening, Training, Education, and Prevention Program, Cancer Prevention & Research Institute of Texas (CPRIT).

Dr. Jennifer Horney (PI). Utilizing Secondary Data to Assess the Health and Health System Impacts of Natural and Technological Disasters in the Gulf, National Academy of Science (NAS).


Dr. Ranjana Mehta (PI). Obesity, Stress, and Neuromuscular Function in the Elderly, National Institute on Aging, National Institute of Health (NIH).


Dr. Joseph Sharkey (PI). Salud Para Usted y Su Familia [Health for You and Your Family]: Family-Focused Childhood Obesity Prevention through a Systems-Oriented Multilevel Approach in Arizona, New Mexico, and Texas Border Area, United States Department of Agriculture USDA National Institute of Food and Agriculture.


New Programs: During 2015, a number of new programs were formally established at SPH to enable researchers with similar interests to coalesce research interests, expertise, and projects. The Program on Asthma Research and Education (PARE) was approved in Fall 2015 under the direction of Dr. Genny Carrillo. Located in the Department of Environmental and Occupational Health, the program’s mission is to promote collaborative research centered on community-based asthma research. The Program on Disability Research and Community-Based Care (PDRC), under the direction of Darcy McMaughan, Ph.D., was established in the Department of Health Policy and Management. The PDRC Program creates a locus of excellence in research on disability and community-based long term supports and services by providing a coordinated focus for both policy-relevant research and evaluations of promising new practices and clinical interventions.

New Awards and Recognition. During 2015, all SPH Principal Faculty were invited to submit their outstanding peer reviewed journals for recognition in the Faculty Best Paper competition sponsored by SPH. Journal submissions were scored based on significance to public research and practice and implications for improving population health. At the Assistant Professor Level, the winners were Dr. Brandie Taylor (EPI/BIOS), Natalie Johnson (EOH), and Dr. Alva Ferdinand (HPM); the Associate Level winner was Dr. Y. Alicia Hong (HPCHS), and the winner at the Professor Level was Dr. Marcia Ory (HPCHS).
Research Enhancement & Development Initiative

The Texas A&M School of Public Health strives to support faculty in their research activities, including assistance in the development of new extramurally supported investigator-initiated research. The Inaugural SPH Dean’s Research Enhancement and Development Initiative (REDI) program is designed to provide small pilot funding awards to SPH investigators in support of innovative, novel, and interdisciplinary ideas with a high probability of leading to significant external funding.

2015 Award Grantees

Y. Alicia Hong, PhD.
Associate Professor
Health Promotion & Community Health Sciences
Health-Related Mobile Use Among Older Adults with Chronic Conditions

Tanya Garcia, PhD.
Assistant Professor
Epidemiology & Biostatistics
Identifying High-Dimensional Neuroimaging Biomarkers Associated with Huntington's Disease Motor-Onset

Natalie Johnson, PhD.
Assistant Professor
Environmental & Occupational Health
Impact of In Utero Aerosol Exposure on Asthma Susceptibility

Ranjana Mehta, PhD.
Assistant Professor
Environmental & Occupational Health
Obesity, Stress & Mobility Outcomes in Older Adults

Brandie Taylor, PhD.
Assistant Professor
Director, Program on Reproductive & Child Health Epidemiology & Biostatistics
Early Pregnancy Serum Short-Chain Fatty Acids & Preeclampsia

Carmen Tekwe, PhD.
Assistant Professor
Epidemiology & Biostatistics
Novel Percentile-Based Statistical Methods to Model BMI Percentiles in Childhood Obesity
Tanya Garcia, PhD.
**Identifying High-Dimensional Neuroimaging Biomarkers Associated with Huntington’s Disease Motor-Onset**
This study aims to overcome methodological limitations by developing a new statistical method to identify and estimate the effects of high-dimensional neuroimaging measures in relation to age at Huntington’s Disease (HD) onset. Major innovations include the introduction of tensor covariates into a Cox model, the discovery of salient structural neuroimaging biomarkers that will be useful for risk-profiling individuals at risk for HD, and the effective use of tensor properties that will allow analysis of different neuroimaging data. This will offer promising ways to predict HD motor-onset and increase the capacity to personalize early intervention based on structural neuroimaging measures.

Y. Alicia Hong, PhD.
**Health-Related Mobile Use Among Older Adults with Chronic Conditions**
This project will provide important data on older adults’ attitudes and behaviors on health-related mobile use, factors affecting their mobile use behaviors at individual, interpersonal, and environmental levels, and their preferences for using mobile tools in chronic disease self-management. Through semi-structured interview, the specific aims will assist in understanding current mobile use behaviors among older adults with HIV, diabetes, or cancer, and explore intervention strategies on using mobile tools for chronic disease self-management. It is one of the first studies to have in-depth examination of health-related mobile use among older adults, and will complement projects on mobile app development and testing to give a comprehensive picture of older adults’ mobile app usage for chronic disease self-management.

Natalie Johnson, PhD.
**Impact of In Utero Aerosol Exposure on Asthma Susceptibility**
This study will provide preliminary data on the role that prenatal exposure to particulate matter plays in asthma pathogenesis in offspring using a mice model. This study will develop a mouse model of asthma susceptibility resulting from in-utero exposure to aerosol mixtures more representative of human exposures. The research in this model is innovative because it represents a new and substantive departure from the status quo by incorporating a representative human exposure in a mouse model of asthma susceptibility. Work in this study will establish a model providing a platform to explore the mechanisms underlying prenatal air pollution exposure and asthma susceptibility. Findings are likely to inform future preventive strategies for mother’s unavoidably exposed to air pollution during pregnancy.

Ranjana Mehta, PhD.
**Obesity, Stress, & Mobility Outcomes in Older Adults**
This study will extend our understanding on how neural processes with obesity moderate mobility outcomes in older adults. This developmental research investigation is an important first step that will fundamentally advance current knowledge on obesity-related changes in neuromuscular function, which to date have mainly focused on changes in peripheral muscular capacities with obesity. This represents a new departure from the status quo by identifying obesity and stress specific neural activation patterns associated with mobility in older adults using a novel functional neuroimaging technique that allows brain imaging during movement. Outcomes will significantly influence how public health intervention strategies are designed that can improve physical functioning and mobility among obese older adults.

Brandie Taylor, PhD.
**Early Pregnancy Serum Short-Chain Fatty Acids & Preeclampsia**
This project will provide preliminary data for future studies to identify potential biomarkers for prediction of preeclampsia subtypes. Utilizing biological samples from an existing cohort study, this study will explore the role of short chain fatty acids (SCFA), danger associated molecular patterns (DAMP) and inflammation in preeclampsia defined by severity. The study aims to determine if SCFA reduce the odds of mild or severe preeclampsia through reduction of serum markers of cellular damage (DAMP) and inflammation. This is one of the first studies to examine associations between SCFA, DAMP and inflammation in preeclampsia. Ultimately, providing a better understanding of preeclampsia pathogenesis will allow researchers to differentiate subtypes and target specific pathways to improve prediction and clinical management.

Carmen Tekwe, PhD.
**Novel Percentile-Based Statistical Methods to Model BMI Percentiles in Childhood Obesity**
With this study, Dr. Tekwe will develop flexible statistical approaches to analyze data collected on elementary school-aged children in studying the impacts of a school-based intervention program to increase their daily physical activity and reduce the prevalence of childhood obesity and its related outcomes such as type 2 diabetes. It will develop more flexible and robust statistical methods and apply them to existing data from a standing desk study to determine how Total Daily Energy Expenditures (TDEE) influences future BMI percentiles among children. This will yield innovative statistical tools for assessing the impact of current TDEE on future BMI percentiles, and advance current knowledge of the impact of school-based environmental intervention measures to prevent obesity in children.
### Board of Regents Approved Centers

<table>
<thead>
<tr>
<th>Center for Community Health Development</th>
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<tbody>
<tr>
<td>Established initially as a CDC funded Prevention Research Center</td>
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<tr>
<td>Co-Directors: Kenneth McLeroy, PhD &amp; Jim Burdine, DrPH</td>
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<thead>
<tr>
<th>Southwest Rural Health Research Center</th>
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<tbody>
<tr>
<td>Established with funding initially from The Federal Office of Rural Health Policy</td>
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<tr>
<td>Director: Jane Bolin, PhD, JD, RN</td>
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<th>Center for Health Organization Transformation</th>
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<tr>
<td>NSF Industry/University Cooperative Research Centers Program</td>
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<tr>
<td>Director, PI: Bita Kash, PhD</td>
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<tr>
<th>USA Center for Rural Public Health Preparedness</th>
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<tbody>
<tr>
<td>CDC funded Center for Public Health Preparedness</td>
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<tr>
<td>Director, PI: Barbara Quiram, PhD</td>
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<tr>
<th>The Ergonomics Center</th>
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<tbody>
<tr>
<td>Funded by multiple external grants</td>
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<tr>
<td>Director, PI: Mark Benden, PhD</td>
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### Research Programs

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<tr>
<th>Program on Disability Research &amp; Community-Based Care</th>
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<tr>
<td>Director: Darcy McMaughan, PhD</td>
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<th>Program for Reproductive &amp; Child Health</th>
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<tr>
<td>Director: Brandie Taylor, PhD</td>
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<th>Program on Healthy Aging</th>
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<tr>
<td>Director: Marcia Ory, PhD, MPH</td>
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<th>Program for Health Policy Research</th>
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<tr>
<td>Director: Michael Morrisey, PhD</td>
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<tr>
<th>Program for Research &amp; Outreach Engagement on Nutrition &amp; Health Disparities Solutions</th>
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<tr>
<td>Director: Joseph Sharkey, PhD, MPH</td>
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<tr>
<th>Program on Public Health &amp; Water Research</th>
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<tr>
<td>Director: Virender Sharma, PhD</td>
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<tr>
<th>Program for Asthma Research &amp; Education</th>
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<tr>
<td>Director: Jenny Canillo, MD, ScD</td>
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Alaniz, Angie. Using a Community Health Development Approach to Increase Access to Opportunities for Physical Activity (Prevention Research Center Core Research Project #2), CDC, $309,717 (2011-2015) [CCHD].

Benden, Mark. Small Business Innovation Research Award (SBIR) PHASE II: Development of a Stand-Based School Desk to Reduce Childhood Obesity, subaward from Positive Motion, LLC (prime is CDC), $421,669 (2013-2016) [ERGC].

Benden, Mark. Texas A&M University Occupational Safety & Health Training Program (competitive 5 year renewal), NIOSH, $516,453 (2012-2017) [ERGC].

Benden, Mark. Can This Process Be Re-purposed to Refill Depleted Below Surface Aquifers? Texas A&M University Area 41 Award, $25,000 (2015-2016) [ERGC].

Benden, Mark. External Safety Support, Texas Transportation Institute, $60,000 (2010-2016).


Bolin, Jane, Co-PI (McClellan, David, PI). Continuation and Expansion of Texas A&M’s Colorectal Cancer Screening, Training, Education, and Prevention Program, Cancer Prevention & Research Institute of Texas (CPRIT), $1,500,000 (2014-2017) [SRHRC].

Bolin, Jane. CPRIT Dissemination: Training CHWs for Cancer Education and Navigation, Texas Cancer Prevention and Research Institute of Texas (CPRIT), $300,000 (2015-2017) [SRHRC] [CCHD].


Colwell, Brian. Youth Tobacco Education Project, Texas Department of State Health Services (DSHS), $687,405 (2003-2016).

Colwell, Brian. ConDev, Texas A&M University & USAID/DRC Partnership: Evaluation of the Kinshasa School of Public Health, United States Agency for International Development (USAID), $293,789 (2015-2016).*


Garcia, Tanya. Identifying High-Dimensional Neuroimaging Biomarkers Associated with Huntington’s Disease Motor-Onset, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*

Garney, Whitney. Tobacco Quit Line Evaluation and Outreach Assistance (Phase I), Texas Department of Aging and Disability Services, $69,895 (2015) [CCHD].*

Garney, Whitney. Texas Tobacco Quit Line (Phase II), Texas Department of Aging and Disability Services, $220,000 (2015-2016) [CCHD].


Griffith, Jennifer. Infectious Disease Panel Session, Texas Department of State Health Services, $210,419 (2015-2016) [USA].


Hong, Alicia. Health-Related Mobile Use Among Older Adults with Chronic Conditions, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*


Horney, Jennifer. Utilizing Secondary Data to Assess the Health and Health System Impacts of Natural and Technological Disasters in the Gulf, National Academy of Science, $181,206 (2015-2017).*


Johnson, Natalie. Strategic Research Development in Health and Transportation, Texas A&M Transportation Institute, Texas A&M Health Science Center, and Johns Hopkins University, $60,000 (2014-2015).

Johnson, Natalie. Impact of In Utero Aerosol Exposure on Asthma Susceptibility, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*


Kash, Bita. Innovative Managing Director, National Science Foundation I/UCRC, $576,815 (2014-2019) [CHOT].

Kash, Bita. Research Experiences for Undergraduates (REU) National Science Foundation I/UCRC, $16,000 (2014-2019) [CHOT].

Kash, Bita. Leveraging a Studer Group Intervention for Continuous Innovation, Student Group, $150,000 (2012-2015) [CHOT Member].


Kash, Bita. A Hospital Integrated Primary Care Provider (PCP) Network Model, Texas Children’s Hospital, $150,000 (2013-2016) [CHOT Member].

Kash, Bita. Translating UBRICA’s Vision for Kenya to Evidence-based Strategy and Funding, UBRICA, $150,000 (2015-2018) [CHOT member].
Active Grants & Contracts CY2015

Kash, Bita. Translating the Healthy South Texas Vision into a Framework for Action and Research, Coastal Bend Health Education Center, $150,000 (2015-2018) (CHOT member).*

Kash, Bita. Customer Service at Central Texas Veterans Health Care System’s Austin Outpatient Clinic (VA), Central Texas Veterans Health Care System, $150,000 (2015-2018) (CHOT member).*

Kash, Bita. The Role of Disparities in 30-Day Hospital Readmission Rates, Main Line Health, $150,000 (2015-2018) (CHOT member).*

Maddock, Jay. Social Epidemiology Project, subaward from the University of Hawaii (prime is Hawaii Department of Health), $11,506 (2015).*


McLeroy, Kenneth. Prevention Research Center (PRC), Center for Community Health Development 5 year renewal, CDC, $7.7M (2009-2015) [CHCH].

McLeroy, Kenneth. Develop and Translate Medical Technology to Reduce Health Disparities, subaward from The American Heart Association, (prime is CDC), $452,381, (2014-2017) [CHCH].


McMaughan, Darcy. Nursing Care Assessment Form Project, Texas Health and Human Services Commission (TXHHSC), $927,276 (2010-2015).


Mehta, Ranjana. Revised Force Endurance Models for the US Workforce, subaward from Research Foundation of Sate University of New York (SUNY) [Prime is CDC-NIOSH], $36,375 (2014-2016).


Mehta, Ranjana (Co-PI). Computer/Video Games, Hemodynamics, and ADHD, Texas A&M PESCA Grant Program, $17,953 (2015-2016).*

Mehta, Ranjana. Brain Imaging Correlates of Precision Motor Control in Major Depression, Hogg Foundation, $19,250 (2015-2016).*

Mehta, Ranjana. Obesity, Stress & Mobility Outcomes in Older Adults, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*


Miller Nimmons, Katherine. Colonia Integrated Care Program: Valley Interprofessional Development and Services (VIDAS). The University of Texas San Antonio (prime is United Health Foundation), $6,286 (2015) [CCHD].*

Miller Nimmons, Katherine. Colonia Integrated Care Program: Valley Interprofessional Development and Services (VIDAS). The University of Texas Rio Grande (prime is United Health Foundation), $29,076 (2015) [CCHD].*

Morrisey, Michael. All Kids Proposal for Special Projects, Subaward from The University of Alabama Birmingham (prime is Alabama Department of Health, Centers for Medicare and Medicaid Services) $41,471 (2015).*


Ohsfeldt, Robert. Technology Directed Advanced Radiation Therapy of Lung Cancer, subaward from the University of Texas Southwestern Medical Center (prime is Cancer Prevention & Research Institute of Texas CPRIT), $232,440, (2011-2016).


Ory, Marcia G. South, West & Central Consortium-Geriatric Education Center of Texas, subaward from The University of Texas San Antonio (prime is HRSA), $131,799 (2010-2015).

Ory, Marcia G. The Central Texas Cancer Prevention and Control Research Network (CTxCPRCN), CDC Special Interest Project, $1,403,650 (2009-2015) [CCHD].

Ory, Marcia G. Impact, Sustainability & Scalability of Multi-component Falls Prevention Programs, CDC Special Interest Project $1,174,608 (2011-2015) [CCHD].

Ory, Marcia G. The Policies, Programs, and Partners for Falls Prevention (PPFFF), CDC Special Interest Project, $799,982 (2012-2015) [CCHD].

Ory, Marcia G. It Takes a Village- A Multi-Level Evaluation of the State Driven Fall Prevention Project, Special Interest Project (SIP), subaward from University of North Carolina (prime is CDC),$204,744 (2014-2017).


Ory, Marcia G. and Hong, Alicia. Center for Healthy Active Living, Texas A&M Engineering Seed Grant Program, $50,000 (2014-2016).


Ory, Marcia G. Falls Reduction Education and Empowerment (FREE) Partnership, Subaward from United Way Tarrant County (prime is Administration on Aging), $163,083 (2015-2020).*

Ory, Marcia G. Texans Working Together for a Falls Free Tomorrow, Wellmed Charitable Foundation, $20,000 (2015-2016).*

Ory, Marcia G. Texas Comprehensive Cancer Survivorship Education Program, Texas Department of State Health Services, $35,430 (2015-2016).*

Ory, Marcia G. Texercise Select: Building the Evidence-Base, Texas Department of State Health Services, $405,895 (2015-2017).*


Peres, S. Camille. Advanced Procedures Research Study Phase III, A Human Factored Approach. TEES/NOVA Chemicals, $37,500 (2015-2016).*

Peres, S. Camille. Exploring Variables Associated with User’s Satisfaction, Performance, and Physiological Responses Based on Keyboard Attributes, Hewlett Packard, $34,998 (2015-2016).*

Peres, S. Camille. Procedural Warnings, Wright State University Center for Operator Performance, $36,807 (2015-2016).*

Pickens, Adam. Optimization of Hardware for Optimal Data Collection Using a Mobile Hearing Screening Application (HEAR). Subaward from University of Texas Health Science Center Houston (prime is National institute for Occupational Safety and Health), $10,000 (2015-2016).*

Quiram, Barbara. Training & Education Collaborative System - Preparedness and Emergency Response Learning Center (TECS PERLC), CDC, $2.47M (2010-2015) [USA].

Quiram, Barbara. High Consequence Infectious Disease Planning Table Top Exercises. Texas Department of State Health Services, 499,988 (2015-2016) [USA].*

Radcliff, Tiffany. Rural Lifestyle Eating and Activity Program (Rural LEAP), subaward from the University of Florida, (prime is NIH) $73,253 (2013-2018).


Sharkey, Joseph R. Salud Para Usted y Su Familia [Health for You and Your Family]: Family-Focused Childhood Obesity Prevention through a Systems-Oriented Multilevel Approach in Arizona, New Mexico, and Texas Border Area, United States Department of Agriculture USDA National Institute of Food and Agriculture, $4,904,638 (2015-2020).*


Shipp, Eva. Neuromotor Function and Work Injury Risk among Hispanic Adolescent Farmworkers (a.k.a. The HIP Project). The Southwest Center for Agricultural Health Injury Prevention and Education at The University of Texas Health Center at Tyler (prime is NIOSH/ CDC), $724,345 (2011-2016).

Taylor, Brandie. Host Genetic Susceptibility to Chlamydia-Associated Reproductive Morbidity, American Sexually Transmitted Diseases Association (ASTDA), $100,000 (2014-2016).


Taylor, Brandie. Short-Chain Fatty Acids in Adverse Pregnancy Outcomes, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*

Tekwe, Carmen (Co-PI). Validation of a Face-to-Face instrument to Measure Medication Literacy, Texas A&M University PESCA Program, $24,757 (2015).*

Tekwe, Carmen. Novel Percentile-Based Statistical Methods to Model BMI Percentiles in Childhood Obesity, Delta Omega Research Enhancement and Development Initiative Program (REDI), School of Public Health Pilot Funding Program, $25,000 (2015-2016).*

Xu, Xiaahuo. K award: Associations between Ambient Air Pollution and Adverse Birth Outcomes in Florida, National Institute of Environmental Health Sciences, $629,535 (2011-2016).*

Projects Key:
* Denotes newly awarded in CY2015.
[ ] Denotes Center affiliated projects
[CCHD] = Center for Community Health Development
[CHOT] = Center for Health Organization Transformation
[ERGC] = The Ergonomics Center
[SRHRC] = Southwest Rural Health Research Center
[USA] = USA Center for Rural Public Health Preparedness


(95) Kim H, Hong Y, Sang B, Shamma VK. Application of SPE followed by large-volume Injection GC/MS for the analysis of geosmin and 2 -methylisoborneol in water. Analytical Methods 2015 08/21;7(16):6678.-


(110) Maddock JE. Using a public health framework to address mental health. PsyCRITiQUES 2015;80(35).


(179) Smith ML, Beaudoin CE, Sosa ET, Pulczinski JC*, Ory MG, McKyer EL. Motivations, Barriers, and Behaviors Related to Obtaining and Discussing Family Health History: A Sex-Based Comparison Among Young Adults. Frontiers in Public Health 2015 Nov 20;3:249.


(3) Baber O* and Spangler J. Monetary considerations in access to safe, affordable, nearby recreation facilities. Aspen Institute Roundtable, Washington, DC. October 6, 2015.


(9) Bustillos B and and Sharkey J. “I try to keep that sugar down.” Homebound older adults with Type 2 Diabetes Mellitus: Barriers to self-management. Experimental Biology 2015, Boston, MA. March 2015.


(21) Garcia TP, Ma Y, Marder K and and Wang Y. Robust estimation for clustered failure time data: application to Huntington’s disease. ISNPS Meeting, Biosciences, Medicine, and Novel Non-Parametric Methods, Graz, Austria. July 2015.


(40) Horney J and Rosenheim N. Using secondary data to quantify the health impacts of disasters in the Gulf of Mexico Oil Spill and Ecosystem Science Conference. Houston TX. February 16-19, 2015.


(45) Kash BA and Tittle KO. How to Engage your Physicians in Growing a Healthy and Innovative Primary Care Network. Medical World Americas Conference co-sponsored byACHE, Houston, TX. April 2015.


(49) Kum H. Population Informatics and the Social Genome. Texas A&M Big Data Workshop, College Station, TX. February 2015.


(74) Pickens A. Current Research in Safety Leading Indicators. ISNConneCt Global Safety Conference, Dallas, TX. April 8-10, 2015.


(82) Sharma VK. Iron Based Sustainable Greener Technologies to Treat Cyanobacteria and Microcystin-LR in Water. International Workshop on Occurrence and Control of Taste, Odours, and Algal Toxins in Waters, Xiamen, China. 2015.


(84) Sharma VK. Ferrates(VI, V, and IV): Multimodal Action in Sustainable Water Treatment Technologies. Kunming University of Science and Technology, Faculty of Environmental Science and Engineering, Kunming, China. 2015.

(85) Sharma VK. Natural Particles in Environment. Yunnan Agricultural University, Kunming, China. 2015.

(86) Sharma VK. Ferrates: Green Oxidants with Multimodal Actions in Sustainable Treatment Technologies. Research Center of Environmental Eco-Friendly Sciences, Chinese Academy of Science, Beijing, China. 2015.


(88) Sharma VK. Water Supply Sustainability and Treatment Strategies: Challenges in Coming Decades. School of Public Health, Peking University, Beijing, China. 2015.

(89) Sharma VK. High-Valent Iron Species (Ferrates) in Sustainable Water Treatment: Underlying Reaction Mechanisms. Institute of Chemistry, Chinese Academy of Science, Beijing, China. 2015.

(90) Sharma VK. Formation and Fate of Natural Inorganic Nanoparticles: Underlying Mechanisms. College of Environmental Science and Engineering, Peking University, Beijing, China. 2015.

(91) Sharma VK. Ferrate (Iron-Based Material): A Broad Portfolio of Applications. Lisbon, Faculty of Pharmacy, Lisbon, Portugal. 2015.

(92) Sharma VK. Ferrates: Green Oxidants with Multimodal Actions in Treatment Technologies. Department of Civil and Environmental Engineering, Rice University, Texas. 2015.


(97) Sharma VK. High-Valent Iron Species: Greener Materials in Sustainable Treatment Technologies. Chemistry Department, Osaka University, Osaka, Japan. 2015.

(98) Sharma VK. Novel Ferrate Technology in Treating Emerging Pollutants and Toxins in Water. Chemistry Department, Tokyo Metropolitan University, Tokyo, Japan. 2015.

(99) Sharma VK. Water Structure and Ferrates as Green Material in Treating Water. Chemistry Department, Toho University, Chiba, Japan. 2015.


# Faculty Research Interests by Department

## Health Promotion and Community Health Sciences

**Burdine, James.** Professor. Measurement of Factors Influencing Community Capacity for Population Health Improvement; Community Health Development Strategies; Community Health Needs Assessment

**Colwell, Brian.** Professor. Adolescent Smoking Cessation; School Health Education; Youth Smoking Prevention; Adolescent Mental Health and Substance Abuse

**Dowdy, Diane.** Assistant Professor. Childhood Obesity Aimed at Prevention or Reduction; Physical Activity Programs to Community Settings; Physical Activity and Aging.

**Hong, Y. Alicia.** Associate Professor. HIV/AIDS and STI Prevention Intervention; Mental Health of Women and Children Affected by AIDS; Mobile Technologies to Behavioral Interventions

**McKyer, Lisako.** Associate Professor, Associate Dean for Climate and Diversity; Maternal Child Health Disparities; Health Equity and Social Justice; Child Health Promotion; Diversity and Cultural Competence

**McLeroy, Kenneth.** Regents Professor and Distinguished Professor. Community Capacity; Community-based Approaches to Health Promotion/Disease Prevention; Social Ecology and History of Public Health; Program Evaluation

**Millard, Ann.** Associate Professor. Border Health; Maternal Child Health; International Health; Occupational Health and Farm Workers; Primary Prevention of Type 2 Diabetes; Food Safety; Community-based Participatory Intervention Research

**Ory, Marcia.** Regents Professor and Distinguished Professor, Associate Dean for Research. Health and Wellness, Aging and Health Promotion, Healthy South Texas, Maternal and Child Health, Health Technology, Community Engagement, Translational Research

**Sharkey, Joe.** Professor. Food Access and Food Choice in Underserved Areas; Food Insecurity and Hunger; Childhood Obesity and Effects of Structural and Individual Characteristics on Nutrition, Physical Activity, and Health Outcomes; Promotora Empowerment; Community-engaged Approach to Population Health

**Spengler, John.** Department Head, Professor. Active Living Policy and Obesity Prevention; Legal and Policy Issues around Injury Prevention; Physical Activity and the Built Environment; Risk Management Policy and Implementation in Sport and Recreation

**Tai-Seale, Tom.** Associate Professor. Local Health Systems Development; Community Empowerment of Chronic Disease Prevention; Program Planning; Evaluation for the Prevention and Control of Chronic Disease; Health Behavior Coaching

**Towne, Samuel.** Assistant Professor. The Intersection of Health and Place; Health-related Disparities; Health Outcomes; Access to Health Services among Aging, Minority, and Rural Populations

## Epidemiology & Biostatistics

**Garcia, Tanya.** Assistant Professor. Genetic Mixture Models; High-dimensional Inference; Measurement Error; Mixed Models; Neurodegenerative Diseases; Nonparametric Models; Semiparametric Models; Survival Analysis

**Gorman, Dennis.** Professor and Department Head. Alcohol and Drug Availability and Violence; Alcohol and Drug Prevention Policies; System Methodologies; Science and Pseudoscience in Public Health Research

**Han, Daikwon.** Associate Professor. Spatial Epidemiology, GIS & Spatial Analysis Methods, Environmental Health/Exposure Science, Environmental Justice & Health Disparities, Healthcare Access, Population Studies/Spatial Demography

**Han, Gang.** Associate Professor. Statistical Methods in the Development of Personalized Medicine; Design and Analysis of Phase I/II Clinical Trials and Translational Studies; Survival Analysis Methods in Cancer Research; HIV Viral Load Modeling; Bayesian analysis; Statistical Computing.

**Horney, Jennifer.** Associate Professor. Disaster Epidemiology Methods; Public Health Preparedness; Population-based Sampling; Public Health Systems and Services Research; Public Health Surveillance; Outbreak Investigation; Disaster Recovery; Community Resilience

**Lillibridge, Scott.** Professor. Biosecurity; Public Health Preparedness, Infectious Disease, Healthy South Texas

**María Perez-Parton.** Assistant Professor. Demographic Methods; Reproductive Health; Migration and Family Formation; Immigrant Health; Minority Aging

**Shipp, Eva.** Associate Professor. Injury Prevention; Occupational and Environmental Epidemiology; Farmworkers & Other Vulnerable Populations; Motor Vehicle Safety and Record Linkage; Electronic Health Records and Other Large Data Sets

**Taylor, Brandie.** Assistant Professor. Reproductive and Perinatal Epidemiology Methods; Identifying Genetic Markers and Biomarkers to Predict Risk of Reproductive/Pregnancy Complications; Prevention of Sexually Transmitted Infections

**Tekwe, Carmen.** Assistant Professor. Cancer Research; Nutritional Epidemiology; Radiation Epidemiology; Gerontology; Health Disparities; Bioinformatics; Proteomics; Measurement Error Models; Longitudinal Data Analysis; Survival Analysis; Applications of Generalized Linear Models; Neurostatistics; Functional Data Analysis; Mixed Effects Models

**Xu, Xiaohui.** Associate Professor. Air Pollution Epidemiological Studies. Maternal and Child Health. Environmental Exposure Assessment. Spatial Epidemiology

**Zhao, Hongwei.** Professor. Survival Analysis; Longitudinal Data Analysis; Quality-adjusted Life Time Estimation; Cost-effectiveness Analysis Conducted with Censored Data; Problems Arising from Correlated Data from Longitudinal Studies; Multilevel Epidemiological Studies

**Zheng, Qi.** Associate Professor. Mathematical Modeling of Biological Processes; Applied Stochastic Processes; Application of Computer Algebra

**Zoh, Roger.** Assistant Professor. Biostatistics; Bayesian Inference, Reliability Modeling and Factor Analysis; Analysis of Genomic Data; Engineering Statistics; Bioinformatics; Functional Longitudinal Data Analysis; Machine Learning; Statistical Monitoring; Nutrition and Cancer Epidemiology
## Faculty Research Interests by Department

### Health Policy & Management

**Alexander, James. Associate Professor.** Development of Community and Health Networks; Small Rural Hospital Leadership; Effectiveness of Critical Access Hospitals; Nursing Shortages

**Bolin, Jane. Professor.** Health Law and Ethics; Regulatory Compliance; Cancer Screening and Prevention; Diabetes Self-Management; Chronic Disease Management; Interdisciplinary and Translational Research; Rural Health Research; Rural Healthy People 2020

**Cote, Murray. Associate Professor.** Health Care Operations; Patient Flow, Capacity Planning and Management; Demand Forecasting; Nurse Staffing and Scheduling

**Ferdinand, Alva. Assistant Professor.** Impact of Laws and Other Policies Relative to Public Health Outcomes: Roadway Safety, Obesity, and Access to Care; State and Federal Regulation of Health Care and Community Health Development

**Gregory, Sean. Assistant Professor.** Integrated Health Care Delivery System Performance; Impacts of Physician Integration; Decision Science Applications in Healthcare; Cost –effectiveness Research

**Griffith, Jennifer. Assistant Professor.** Program Evaluation; Public Health Emergency Preparedness; Public Health Education Practices

**Hataia, Jeffrey. Assistant Professor/Director.** Public Health Systems and Service Research; Rural Health, Health Policy, and Vulnerable Populations; Nutrition, Physical Activity, Obesity and Related Conditions; Educational Pedagogy, Particularly Around Writing Skills in Health Professions.

**Kash, Bita. Associate Professor.** Organizational Capacity for Change and Transformation; Change Implementation in Healthcare; Healthcare Strategic Planning and Marketing; Evaluation of Integrated Primary Care Networks; Quality and Cost of Care; Strategic Management in Nursing Homes.

**Kum, Hye-Chung. Associate Professor.** Data Science for Health Care; Population Informatics; Health Informatics; Health Policy Research; Program Evaluation Using Big Data; Decision Support Systems for Health Policy and Management

**McMaughan, Darcy. Assistant Professor.** Elder Abuse in Long-term Care in the United States; Pain Management among Texas Medicaid Recipients; Quality of Nursing Home Care in Texas; Fall Deaths among Older Adults; Relationship between Formal and Informal Care among Medicaid Home Health Care Recipients in Texas; Aging and Health Policy

**Morrisey, Michael. Professor and Department Head.** Employer-sponsored Health Insurance; Affordable Care Act; Medicare & Medicaid; Effects of Legislation on Health and Health Care; Hospital Economics; Price Transparency in Health Care

**Ohsfeldt, Robert. Professor.** Cost-Effectiveness and Cost Models; Economics of Health Behavior; Impact of Health Sector Regulation

**Quiram, Barbara. Professor and Director.** Public Health Infrastructure; Health System Service Quality; Public Health Workforce Development; Rural Community Health System Planning and Development; Rural Community Disaster Planning

**Radcliff, Tiffany. Professor.** Health Economics; Health Policy; Health Services Research; Improving Quality of Care in Long-term Care; Access to Care for Rural and Other Underserved Populations; Improving Care Processes and Outcomes; Economic Evaluation

**Sumaya, Ciro. Professor.** Infectious diseases; Tropical Medicine; Public Health Workforce

**Cizmas, Leslie. Assistant Professor.** Environmental Health and Xenobiotic Exposures; Assessment of Pesticide Exposure in Children; Development of Effective Methods for Exposure Reduction; Community Health Education; Environmental Justice and Health Disparities; Global Health

**Johnson, Natalie. Assistant Professor.** Environmental Carcinogens; Environmental Health Disparities; Exposure to Foodborne ( aflatoxins) and Environmental Carcinogens (polycyclic aromatic hydrocarbons); Chemoprevention; Development of Biomarkers of Exposure to Traffic-related Air Pollution; Prenatal Exposure to Air Pollution and Associated Epigenetic Changes; Dietary Interventions to Prevent Environmentally-induced Asthma; Population-based Animal Models of Allergic airway Disease; K-12 Environmental Education; Undergraduate Research Mentoring; Environmental Sustainability; Healthy Gardens

**Maddock, Jay. Dean and Professor.** Social Ecological Approaches to Increasing Physical Activity; Nutrition, Tobacco Use, and Global Health

**McDonald, Thomas. Professor.** Environmental Chemistry; Petroleum Geochemistry; General Organic Chemistry

**Mehta, Ranjana. Assistant Professor.** Neuroergonomics; Operator Stress and Fatigue; Obesity and the Aging Brain; Falls Prevention

**Peres, S. Camille. Assistant Professor.** Biomechanics of Human Computer Interactions; Design Guidelines for Auditory Displays; Usability of Home Health Care Technology

**Pickens, Adam. Assistant Professor.** Ergonomic Tool Development; Occupational Safety Screening/Tool Development; Upper Extremity Modeling; Manual Materials Handling; Occupational Biomechanics

**Rene, Antonio. Professor and Associate Dean for Academic Affairs.** Occupational/Environmental; Chronic Disease Epidemiology, Research Training

**Sharma, Virender. Professor and Department Head.** Iron-Based Oxidants (Ferrates and Ferrites); Kinetics and Mechanism of High-Valent Transition Metals; Advanced Oxidation Methods; Solar-Based Photoactive Materials in Water Treatments; Green Synthesis of Nanoparticles; Formation, Fate and Toxicity of Nanoparticles in Aquatic Environment

### Environmental & Occupational Health

**Benden, Mark. Associate Professor.** Office Worker Obesity, Classroom Ergonomics and Childhood Obesity; Medical Device Development and Testing; Rehabilitation Engineering

**Bokelmann, AnnaMaria. Assistant Professor.** Environmental Health; Site Assessment; Regulatory Compliance, Health and Safety

**Carillo, Genny. Associate Professor.** Public Health and US-Mexico Border Health Issues; Interactions of Human Health and the Environment; Asthma in School Children; Home Safety and Healthy Homes
The mission of the Office of Research is to provide efficient and effective administration and support for the research activities of the faculty and staff of the School of Public Health. The Office of Research will undertake this mission through relationships internal to the school and other entities within the Texas A&M University System as well as those external to the System.