

WSU Spokane Grant and Contract Award Summary

July 1 – September 30, 2015

NEW & TRANSFER AWARDS

Julie Akers (PI); Linda MacLean; Terri Levien – College of Pharmacy

Community Pharmacy Foundation

“Increasing Access to Point-of-Care Screening for Hepatitis C in Community Pharmacies”

This grant funds a study of the feasibility and sustainability of point-of-care screening for hepatitis C virus (HCV) in community pharmacies. For this study, the researchers are participating with Bartell Drugs, a family-owned independent pharmacy chain with 60 locations in the greater Seattle area. HCV virus affects approximately 3.2 million people in the US. It is estimated that less than two thirds of infection have been diagnosed. This project will provide cost-effective and convenient access to HCV screening and will help increase the proportion of persons aware of their HCV.

Christopher Blodgett (PI) – Child and Family Research Unit

American Red Cross

“OSO Landslide CLEAR Project”

This grant helps provide long-term social and emotional community recovery for the community of Darrington, Washington, after the devastating 2014 Oso landslide. Using the CLEAR (Collaborative Learning for Educational Achievement and Resilience) model, the Child and Family Research Unit will support the Darrington School District in meeting the acute and chronic adjustment needs of students and families. It will also support a broader community discussion of the effects of trauma, addressing the landslide as well as pre-existing challenges—including family violence, untreated mental health and substance abuse, and social isolation—that were long acknowledged but never fully addressed.

Patricia Butterfield (PI); Janessa Graves; Julie Postma; Lois James – College of Nursing

Oregon Health and Sciences University/National Institute for Occupational Safety and Health

“Nursing students' 1st entree into clinical rotations: Initial behaviors addressing shift work, sleep, and safe practice”

This is grant funding from the Oregon Healthy Workforce Center at Oregon Health and Sciences University under its Total Worker Health research program, which is supported by the National Institute for Occupational Safety and Health. It funds a study aimed at describing students' sleep patterns and perceptions of safe practice during their first semester of evening clinical rotations. Practicing nurses are known to report a number of sleep-associated problems—such as difficulty sleeping and excessive sleepiness—which can increase the likelihood of patient medication errors, needle-stick injuries, and other health and safety issues. Understanding student nurses' initial behavior patterns in response to shift work can yield insights into opportunities for occupational interventions, both at the university and hospital level.

Janessa Graves (PI); Patricia Butterfield; Celestina Barbosa-Leiker; Julie Postma; Gail Oneal – College of Nursing

Oregon Health and Sciences University/National Institute for Occupational Safety and Health

“Total Worker Health among New Nurses: An Instrument Development Study”

This is grant funding from the Oregon Healthy Workforce Center at Oregon Health and Sciences University under its Total Worker Health research program, which is supported by the National Institute for Occupational Safety and Health. It funds a pilot project to investigate nurses' perception of risks related to total worker health, including a study to explore understandings of occupational health risks among recently graduated nurses; an analysis of workers' compensation claims to describe the impact of compensated occupational injuries among nurses in Washington State; and a literature review that will be used with the results from the aforementioned studies to develop a risk perception tool to measure total worker health among recently graduated nurses.

Jae Kennedy (PI) – College of Nursing, Dept. of Health Policy and Administration

U.S. Department of Health and Human Services/National Institute on Disability, Independent Living, and Rehabilitation Research

“Collaborative on Health Reform and Independent Living”

This grant funds the creation of a Collaborative on Health Reform and Independent Living that brings together disability advocates and researchers from WSU and three other institutions to evaluate the impact of the 2010 Patient Protection and Affordable Care Act on the physical, psychological, and economic well-being of working-age adults with disabilities. The researchers will analyze data from existing surveys as well as conduct new phone and Internet-based surveys to gather data from health care consumers with disabilities and directors of Centers of Independent Living. Partner institutions in this project are the University of Kansas, George Mason University, and the Independent Living Research Utilization program at TIRR Memorial Hermann Hospital.

Philip Lazarus (PI) – College of Pharmacy

National Institutes of Health

“The UGT2A and 3A metabolizing enzymes and tobacco-related cancer risk”

As part of this research project, the PI will study whether two enzymes—UDP-glycosyltransferase (UGT) 2A and 3A—could be used to predict tobacco users’ level of risk for lung, head, and neck cancers. UGT enzymes help detoxify many carcinogens abundant in tobacco and/or tobacco smoke. This study will help scientists better understand its role in the development of tobacco-related cancers and help them identify subjects for targeted prevention strategies.

Michael McDonell (PI); Dedra Buchwald; John Roll – WSU Spokane; College of Nursing

National Institutes of Health

“Contingency Management Treatment of Alcohol Abuse American Indian People”

These are funds transferred from the PI’s previous institution for a study of the use of a culturally acceptable contingency management intervention to encourage and support abstinence from alcohol abuse among American Indians and Alaska Natives. The study covers individuals from three tribes living on two reservations who receive services at an urban Indian health care facility. Contingency management is an intervention that uses incentives to reward positive behaviors.

Kimberly McKeirnan (PI); Shannon Panther; Darryl Potyk – College of Pharmacy; University of Washington School of Medicine

Pfizer, Inc.

“Improving Pneumococcal Vaccination Rates in Older Adults Through Enhanced Academic Detailing: Medicine, Nursing and Pharmacy Partnerships”

This grant provides support for a project aimed at increasing pneumococcal vaccination rates in older adults in rural areas using enhanced academic detailing. Academic detailing is an evidence-based approach to change clinical practice, where tailored material is shared colleague-to-colleague to improve decision-making. Enhanced academic detailing is conceptualized as a comprehensive approach that includes the identification of health care provider and system barriers; builds an infrastructure for adult vaccinations; and is delivered by an interdisciplinary team of pharmacists, nurses, and physicians. The approach will be piloted at interested community-based medical clinics and rural pharmacies in Whitman County, Washington.

Josh Neumiller (PI); Brian Gates; Cynthia Corbett; Roxanne Vandermause – College of Pharmacy; College of Nursing

Patient-Centered Outcomes Research Institute (PCORI)

“Preserving Self: Empowering Older Persons with Multiple Chronic Medical Conditions”

This grant helps the researchers take findings from an earlier study also funded by PCORI and convert them into a toolkit to help older adults with multiple chronic medical conditions to better engage with their health providers. The findings will also be disseminated to health care professionals through publications in scientific and professional journals and local presentations.

Barbara Richardson (PI); Janet Purath; Kevin Stevens; Tamara Odom-Maryon; Brenda Bray; Megan Willson; Catrina Schwartz – College of Nursing; College of Pharmacy

U.S. Department of Health and Human Services /Substance Abuse and Mental Health Services Administration
“Spokane Teaching Health Center SBIRT Student Training”

This grant funds a three-year program to provide WSU health professions students with training to recognize and treat substance use disorders as part of their clinical experiences at the Spokane Teaching Health Center, an on-campus clinic scheduled to open in 2016. The program will provide training to 822 health professionals and residents, including students in the Doctor of Nursing Practice, Doctor of Pharmacy, and Doctor of Medicine programs and residents in the family medicine, internal medicine, and psychiatry programs.

Kenneth Roberts (PI) – Elson S. Floyd College of Medicine
University of Idaho

“Interagency Agreement Washington State University and University of Idaho”

This contract provides funding for an agreement between WSU and the University of Idaho WWAMI Medical Education Program regarding their continued use of Pullman-based facilities to support human gross anatomy teaching. The contract funds the use of two human gross anatomy labs, offices, and classrooms, along with personnel support.

Martin Schiavenato (PI); Subhanshu Gupta – College of Nursing; Voiland College of Engineering
Life Sciences Discovery Fund

“Developing a multidimensional pain detection device for infants”

This grant funds the development of a prototype of a patented device to objectively measure pain in infants in the neonatal intensive care unit (NICU). The prototype will help WSU market the device to industry-leading companies in the field of NICU monitoring.

Mark VanDam (PI) – Elson S. Floyd College of Medicine, Dept. of Speech and Hearing Sciences
National Science Foundation

“Collaborative Research: Enabling Access to and Analysis of Shared Daylong Child and Family Audio Data”

This grant funds a collaborative project with UC Merced and Carnegie Mellon University to set up a shareable database of child and family audio recordings, along with open-source software to perform audio analyses. The database will provide an invaluable resource to researchers in a variety of disciplines, including linguistics, speech pathology developmental psychology, education, and computer science.

Roxanne Vandermause (PI) – College of Nursing
International Nurses Society on Addictions

“Relational Health of Teens in Substance Use Treatment”

This grant funds a study aimed at exploring how relationships affect substance use treatment success in teens. The study will follow 180 boys and girls, ages 13 to 19, who are admitted for treatment in an inpatient chemical dependency facility for about 5 months. Study results will contribute to the overall goal of improving age and gender-specific treatment strategies for adolescent substance users.

Jacqueline van Wormer (PI) – Dept. of Criminal Justice and Criminology
Washington State Department of Corrections

“Smarter Supervision with Statewide Impact”

This grant provides funding for WSU faculty to evaluate the Impacting Behavior Change model as a way to improve supervision practices in the Washington State Department of Corrections. Specifically, the researchers will collect data to measure the implementation and transfer of training and technical assistance materials of the model under the Bureau of Justice Assistance Smart Supervision grant. The Impacting Behavior Change model is aimed at enhancing the knowledge and skill base of Community Corrections staff to improve supervision techniques and target recidivism reduction.

Bryan Vila (PI); Lois James; Stephen James – Dept. of Criminal Justice and Criminology; College of Nursing; Sleep and Performance Research Center

U.S. Department of Defense, Office of Naval Research

“Analyzing Novel Experimental Research Data to Better Understand and Manage Fatigue Across the Range of Military Operations”

This grant funds additional analysis of data from a set of previously completed experiments funded by the Office of Naval Research. The analysis will test 10 new hypotheses that may lead to the identification and development of new ways to manage fatigue and understand its impact on warfighters’ safety and health, interactions with civilians, and driving.

Bryan Vila (PI); Lois James; Stephen James – Dept. of Criminal Justice and Criminology; College of Nursing; Sleep and Performance Research Center

Renaissance Sciences Corporation/U.S. Department of Defense, Domestic Preparedness Support Initiative

“Study on the Impact of Work-Shift Related Fatigue on Deadly Force Judgment and Decision Making”

This is funding from the U.S. Department of Defense’s Domestic Preparedness Support Initiative, which coordinates Department of Defense efforts to translate research efforts to first responders. The funding leverages funding from another recent award from the Office of Naval Research (see previous listing) to conduct additional analysis of existing data. This funding helps share the research costs of the Office of Naval Research project and enables the translation of research results on fatigue management to civilian police and other first responders as well as researchers and policy makers.

Marian Wilson (PI); John Roll; Matthew Layton; Celestina Barbosa-Leiker – College of Nursing; Elson S. Floyd College of Medicine

WSU Office of Research

“Internet-based Pain Self-management for Persistent Pain Populations on Methadone Maintenance”

This is an internal grant under the WSU Alcohol and Drug Abuse Research Program. It funds a study to test the effectiveness of an 8-week Internet-based pain self-management program that promotes nonopioid pain management strategies in persons with persistent chronic pain who are in a methadone maintenance treatment program for opioid addiction.

Jiyue Zhu (PI); Shuwen Wang – College of Pharmacy

National Institutes of Health

“Development of a mouse strain with human-like telomerase regulation”

Telomeres—the protective ends of chromosomes—have been the subject of many studies on aging and cancer. Telomeres in human cells get progressively shorter upon successive cell divisions, serving as an aging clock. Cells from some other organisms, including mice, do not have telomeres that shorten over time, which has been a barrier to the use of mouse models to address many fundamental questions in human aging and cancer. The goal of this project is to develop new mouse strains with human-like telomere length that can be used as an improved model for studying human aging and cancer.

AWARDS FOR ONGOING WORK

(Renewal, continued, and supplemental funding for projects awarded previously)

Chris Blodgett (PI) – Child and Family Research Unit

US Dept. of Human and Health Services – Substance Abuse and Mental Health Services Administration – Center for Mental Health Services

“Washington State CLEAR Trauma Center Yr 4”

This grant provides continued funding for WSU to serve as the lead agency for a statewide partnership of educational systems committed to addressing trauma as a primary threat to the success of schools. The goal is to help schools move significantly toward being trauma-informed systems with the capacity to provide evidence-based services to traumatized children, which will increase their opportunities to succeed in school. The partnership covers four in every ten children in Washington State and serves some of the most diverse communities, including rural, low income, Hispanic, and Native American populations.

Chris Blodgett (PI) – Child and Family Research Unit

**RAND Corporation/US Department of Justice – Office of Juvenile Justice and Delinquency Prevention
“RAND National Evaluation Safe Start Year 4”**

This is supplemental funding for a national evaluation to measure project sites’ efforts to expand current partnerships between service providers that create a comprehensive service delivery system for preventing children’s exposure to family and community violence and reducing its impact. The evaluation will enhance understanding of the scope of the problem of children’s exposure to violence in the United States.

Chris Blodgett (PI) – Child and Family Research Unit

The California Endowment

“CLEAR California: Trauma Informed School Improvement”

This is renewal funding for a grant that funds a project aimed at improving school outcomes by addressing the effects of trauma due to adverse child experiences. As part of this project, the Area Health Education Center at WSU will integrate two established models, CLEAR (Collaborative Learning for Educational Achievement and Resiliency) and HEARTS (Healthy Environments and Response to Trauma) into a single, unified approach to dealing with trauma in schools. The project also includes outreach to California schools that may serve as sites for implementation and testing in a subsequent, multi-year phase of this project.

Weihang Chai (PI) – Elson S. Floyd College of Medicine

National Institutes of Health

“Mechanisms of Fork Restart in Response to Genotoxic Stress”

This is continued funding for a study of the potential role of CST protein complex in preserving genome stability. Genome stability is threatened by environmental exposure to genotoxins, which stress and sometimes stall the process by which DNA replicates. This can lead to damage in the form of a high frequency of changes and rearrangements of DNA sequences in cells—known as genome instability—which can lead to cancer and has also been linked to certain neurodegenerative diseases. Recent studies have shown that deficiencies in the CST complex—which consists of three genes known as Ctc1, Stn1 and Ten1—impair the restarting and repair of stalled DNA replication. The hypothesis of this study is that CST may somehow help facilitate replication and prevent breakage of DNA in fragile sites. The study may provide new insights into how cells counteract DNA damage caused by genotoxin-induced replication stress and has the potential to lead to improved screening for diseases linked to mutations in the genes in the CST complex, including type 2 diabetes, heart disease, pulmonary fibrosis and two rare conditions with aging-related symptoms—Coats plus syndrome and dyskeratosis congenita.

Christopher Davis (PI); James Krueger; Hans Van Dongen – Elson S. Floyd College of Medicine; Sleep and Performance Research Center

National Institutes of Health

“Uncoupling Sleep Deprivation-Associated Stressors From Sleep Loss in Rodents”

Many conclusions about brain sleep mechanisms are derived from animal sleep deprivation experiments. Animal studies of sleep deprivation differ from human studies in that sleep loss in human experiments is voluntary, whereas in animal experiments it is typically induced by uncontrollable aversive stimuli (i.e., the animal’s avoidance of punishing stimuli provided when it threatens to fall asleep). This is continued funding for a study that seeks to uncouple the effects of these aversive stimuli from the effects of sleep loss per se. The study will examine the use of intracranial self-stimulation (ICSS)—a rewarding, self-chosen method for rodent sleep deprivation—as well as a newly developed rodent attention task (nRAT). It will test the hypothesis that sleep deprivation through ICSS produces performance data that are more similar to human psychomotor vigilance task data than the currently used rat psychomotor vigilance task. The study has the potential to improve sleep deprivation methodology and cognitive testing in animal brain mechanism studies

Dennis Dyck (PI) – Department of Psychology

Washington Department of Social and Health Services, Children’s Mental Health Services

“System of Care Youth Leadership Training”

This is additional funding for a contract with the Washington State Department of Social and Health Services to provide staffing, infrastructure, and expertise for the development of statewide evidence-based peer support programs for mental health and substance abuse. The work under this contract includes the development of

initiatives to increase youth and family engagement in behavioral health policy, planning, and service delivery; training and workforce development for providers and/or mental health consumers; identification, review, and development of peer support models and programs; and research and evaluation and development and implementation of evidence-based practice.

Michael Ebinger (PI) – University Center for Innovation

U.S. Department of Commerce, Economic Development Administration

“EDA University Center at Washington State University”

This is continued funding for the operation of an Economic Development Administration (EDA) University Center at Washington State University. Based in Spokane, the center makes available university resources to the public to promote economic development in Washington state, western Idaho, and northern Oregon. It cultivates innovation and supports commercialization by providing technical assistance to small businesses, startups, and communities; conducting applied research on the market viability of products and services that drive small businesses and communities; and assisting distressed areas within the service region by identifying areas of potential economic development and helping to develop that potential into sustainable jobs.

Cynthia Fitzgerald (PI); Barbara Richardson; Kevin Stevens; Anne Mason; Melody Rasmor; Janet Beary; George Novan; Janet Purath; Brenda Bray; Megan Willson; Lisa Woodard; Saleh Elgiadi; Tamara Odom-Maryon – College of Nursing; Program in Nutrition and Exercise Physiology; Elson S. Floyd College of Medicine; College of Pharmacy

U.S. Department of Health and Human Services, Health Resources and Services Administration

“Using IPE to Improve Care for Patients with MCC Initiative”

This is continued funding for a project to improve care for patients with multiple chronic conditions through the use of interprofessional education. As part of this project, a cohort of faculty from different disciplines will be trained on interprofessional education methods related to collaborative care for patients with multiple chronic conditions, such as diabetes and heart disease, and behavioral health issues, such as depression. These faculty members will educate teams of students to provide this type of care to patients who live in rural or medically underserved areas. The program will provide simulation-based and classroom experiences to 380 master’s and doctoral students in WSU’s nursing, medicine, pharmacy, and nutrition and exercise physiology programs and EWU’s social work program. Student teams will also practice their skills in clinical settings, including Yakima Valley Farm Workers Clinic locations throughout the state.

Marcos Frank (PI) – Elson S. Floyd College of Medicine/Sleep and Performance Research Center

National Institutes of Health

“Non-Neuronal Regulators of Sleep”

This is continued funding for a study of the potential role of gliotransmission—chemical signaling between glia and neurons in the brain—in sleepiness and impaired cognitive functioning after sleep loss. The study could contribute to new ways to combat excessive daytime sleepiness and insomnia, as well as attention, learning, and memory problems associated with sleep loss.

Marcos Frank (PI) – Elson S. Floyd College of Medicine/Sleep and Performance Research Center

National Institutes of Health

“REM Mechanisms in Neocortical Development”

This is a balance transfer for unobligated funding awarded at the PI’s previous institution. This grant funds a study on the relationship between rapid-eye-movement (REM) sleep and ocular dominance plasticity. Ocular dominance plasticity refers to changes in in the brain’s synapses that are triggered by changes in binocular vision—the ability to maintain visual focus on an object with both eyes, creating a single visual image. As part of this project, the researcher will test the hypothesis that REM sleep is necessary for the consolidation of ocular dominance plasticity and that it is mediated by protein kinases activated in REM sleep.

Kawkab Shishani (PI) – College of Nursing

National Institutes of Health

“Role of Contingency Management in Water-pipe Smoking Cessation”

Few studies have been conducted on water pipe smoking to investigate its harmful effect and evaluate treatments for smoking cessation in water pipe smokers. This represents continued funding for a project that will provide career development and training of a public health nurse scientist to conduct innovative and rigorous research around water pipe smoking prevention. In addition, it will include a study to test the effectiveness of an incentive-based treatment method to promote abstinence from water pipe smoking.

Hans Van Dongen (PI) – Elson S. Floyd College of Medicine/Sleep and Performance Research Center

University of California at Davis/National Institutes of Health

“Longitudinal Measurement of the Changing Sleep Need in Adolescence”

This is renewal funding for a subcontract of an NIH grant awarded to UC Davis for a longitudinal study on the changing sleep need in adolescents. Van Dongen will help design the study protocol related to measuring daytime performance and will assist in analyzing and interpreting daytime performance data.

Hans Van Dongen (PI); Dene Grigar; Sandip Roy; Mike Ebinger - Elson S. Floyd College of Medicine/Sleep and Performance Research Center; College of Arts and Sciences; School of Electrical Engineering and Computer Science; University Center for Innovation

WSU Office of Commercialization

"User Interface and Commercialization Plan for Drowsy Driver Detection at Moderate levels of Fatigue"

This is incremental funding for an internal grant under the Commercialization Gap Funding program. The grant funds a project to help commercialize a recently patented drowsy driver detection technology. The technology uses sensors in the steering column of a vehicle to measure a driver's normal steering movements and can detect when changes in the steering pattern indicate driver fatigue. This project encompasses the development of an app that will enable the system to interface with a phone or tablet computer to produce a customizable warning; work to improve the processing of the sensor data to increase the effectiveness of the algorithm on which the technology is based; and development of a prototype to demonstrate the device's effectiveness and marketability. WSU Vancouver provides matching funds for this project.