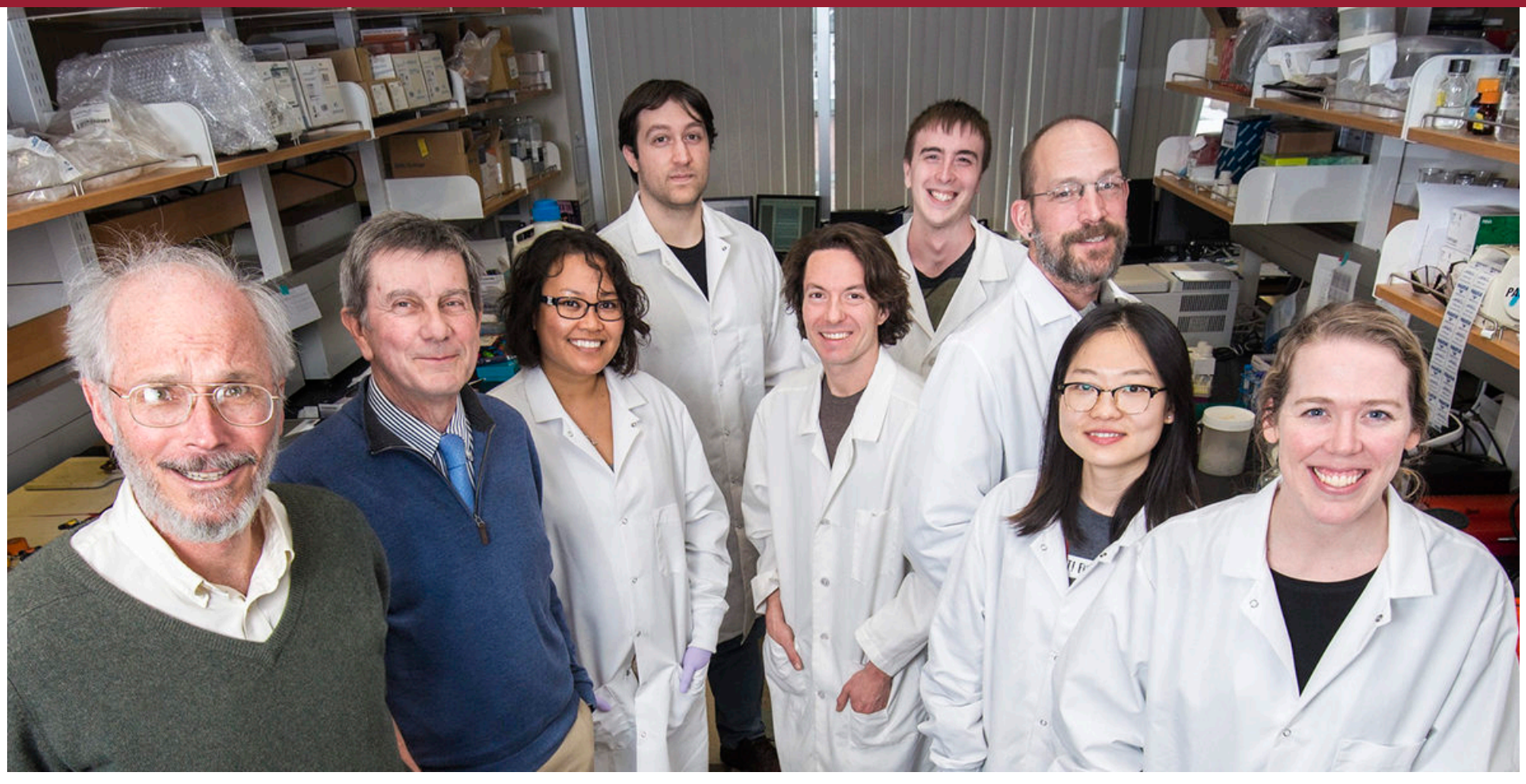

Grant and Contract Awards

FY2019, 4th Quarter Summary (April 1 – June 30, 2019)

Scroll down to read, or use these links to jump directly to a section/principal investigator (PI):

NEW & TRANSFER AWARDS

AWARDS FOR ONGOING WORK

(New grants, funding transferred from a PI's previous institution, and NIH competitive renewal funding)

- Amiri, Solmaz
- Chaytor, Naomi
- DeWald, Daryll
- Espenschied, Jonathan
- Fyfe-Johnson, Amber
- Gerstner, Jason
- Hamilton, Zachary
- Harrison, Leila
- Hebert, Luciana
- James, Lois
- Kriegel, Liat
- Kumar, Anjali
- McDonell, Michael
- Miller, Lindsey
- Muller, Clemma
- Nelson, Lonnie
- Postma, Julie
- Purath, Janet
- Wilson, Marian
- Wu, Boyang

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

- Buchwald, Dedra
- Gaddameedhi, Shobhan
- Gibson, K Michael
- Hamilton, Zachary
- Krueger, James
- Lazarus, Philip
- McDonell, Michael
- Mohr, James
- Nelson, Lonnie
- Paine, Mary
- Potter, Jonathan
- Sinclair, Ka'imi
- Van Dongen, Hans
- Wang, Zhenjia
- Zhu, Jiyue

NEW & TRANSFER AWARDS

(New grants, funding transferred from a PI's previous institution, and NIH competitive renewal funding)

Solmaz Amiri (PI); Von Walden; Julie Postma; Tamara Odom-Maryon – Elson S. Floyd College of Medicine, Dept. of Nutrition & Exercise Physiology; Voiland College of Engineering & Architecture; College of Nursing

Rambol Foundation

"Deploying a Smart Exposure Information System: A Longitudinal Analysis of Air Quality, Children's Health, and School Absenteeism in Spokane, Washington, US"

This project will assess the relationship between school air quality and elementary school absenteeism triggered by respiratory events, both during school hours and overall. Air quality sensors will be placed on the rooftop and inside Spokane schools selected for their susceptibility to poor, moderate, or good outdoor air quality (based on GIS data). Student absenteeism from school and school-tracked incidents of air quality-related respiratory illness will be correlated with air quality in and around schools. The study will test the hypothesis that he deployment of sensors on rooftops and inside of schools provides a more accurate measure of a school's air quality than simply using local nearby air quality sensors. This approach enhances the assessment of the effects of air quality on children's health and well-being by providing fine-grained detail of air quality within urban environments.

Naomi Chaytor (PI); Hans Van Dongen; Michael Cleveland – Elson S. Floyd College of Medicine; College of Agricultural, Human & Natural Resource Sciences

McLean Hospital/National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases

"Glycemic variability and fluctuations in cognitive status in adults with T1D"

Adults with type 1 diabetes have poorer cognitive performance than those without diabetes. Studies have shown that cognitive status is sensitive to short-term glycemic changes—changes in blood glucose levels—and that these effects differ across individuals. These short-term effects of glycemic variations on cognition are poorly understood, which may be adversely impacting everyday functioning, diabetes self-management and/or brain function. The goal of this study is to determine if glycemic variability is associated with fluctuations in cognitive status within individuals; determine if stress, mood, and fatigue mediates the relationship between blood glucose levels and cognitive status; and determine if diabetes-related factors influence the association between blood glucose levels and cognitive status. The ultimate goal is to help adults with type 1 diabetes better track their cognitive status and maximize their day-to-day cognition, functional status and quality of life.

Daryll Dewald (PI) – WSU Health Sciences Spokane

Health Sciences & Services Authority of Spokane County (HSSA)

"HSSA/WSU Gleason Institute of Neuroscience"

This grant provides matching funding for a gift from Avista Corporation to establish the Steve

Gleason Institute for Neuroscience at WSU, in partnership with the Gleason Foundation and St. Luke's Rehabilitation Institute. The mission of the institute will be to create an integrated, multifaceted approach to neurodegenerative disease research to find new treatments, therapies, and technologies that help patients and their families. The focus of the institute will be on ALS and related diseases.

Jonathan Espenschied (PI) – Elson S. Floyd College of Medicine

Premera Blue Cross

"Premera Social Impact"

This grant provides four years of funding for the Graduate Medical Education (GME) and Medical Education Pipeline Programs in WSU's Elson S. Floyd College of Medicine. The funds will be used to support the startup costs for at least two primary care-focused residency training programs at rural hospitals in Washington State as well as to launch the inaugural third-year and fourth-year rural track longitudinal integrated clerkship program, which provides medical students with patient care experiences in rural and underserved areas throughout the state.

Amber Fyfe-Johnson (PI) – Elson S. Floyd College of Medicine/Community Health

George B. Storer Foundation

"Health Outcomes in Preschool: INnovations for Obesity Prevention (HOP-IN)"

This award funds the hiring of a research assistant to complement an NIH-funded project to evaluate the impact of an outdoor preschool model on health outcomes and academic achievement in early childhood. The Health Outcomes in Preschool: INnovations for Obesity Prevention (HOP-IN) will partner with Tiny Trees, a preschool in Seattle, Washington, with an entirely outdoor, play-based curriculum. The study will collect data on the physical activity, sleep, body mass index, gut microbiome, and academic performance of 200 children ages 3 to 5 for a period of five years. This includes 100 children attending Tiny Trees and a control group of 100 waitlisted children who are currently attending a traditional indoor preschool. The researchers will compare various outcomes between the two groups and will also perform a cost-benefit analysis to evaluate the longer-term sustainability of the Tiny Trees outdoor preschool model.

Jason Gerstner (PI) – Elson S. Floyd College of Medicine

Washington Research Foundation

"Fly Screening Assays for the Development of Human Disease Therapeutics"

This grant provides funding for the Gerstner Lab to dedicate additional resources, technician time and necessary supplies to screen potential therapeutics to evaluate sleep disturbance, life span, and mobility problems in fruitfly models of neurodegenerative diseases, such as Alzheimer's disease, Parkinson's disease, and ALS. This work will lay the groundwork for the development of therapeutics for use in humans with neurodegenerative diseases.

Zachary Hamilton (PI) – College of Arts & Sciences, Dept. of Criminal Justice & Criminology

Spokane County/US Department of Justice, Office of Justice Programs

"BJA's Smart Reentry: Focus on Evidence-based Strategies for Successful Reentry from Incarceration to Community"

This award provides funding for WSU to work with Spokane County on the development and implementation of a reentry program for individuals who are returning to communities from prison, jail, and juvenile detention facilities. Funding for the Second Chance Act Smart Reentry program comes from the U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance. The goal is to develop and implement strategies that address the challenges posed by reentry; to increase public safety; and to reduce recidivism for individuals reentering communities from incarceration who are at medium to high risk for recidivating.

Leila Harrison (PI) – Elson S. Floyd College of Medicine

University of Utah/Association of American Medical Colleges

"Bias and the Multiple-Mini Interview: Helping Promote Fair, Holistic Admissions in The Health Sciences"

This subaward provides funding for WSU's participation in a study related to the Multiple-Mini Interview process used as part of many medical schools' admissions processes. The study—which will be conducted in collaboration with the University of Utah School of Medicine and the University of Tucson School of Medicine—will look at interviewer and applicant demographics and rating scores to explore whether there is any evidence of bias in the interview process.

Luciana Hebert (PI) – Elson S. Floyd College of Medicine

WSU Office of Research, New Faculty Seed Grant Program

"Reproductive Profile of AIAN women in the National Survey of Family Growth"

American Indian and Alaska Native women and girls experience numerous health challenges including unintended pregnancy, late entry into prenatal care, increased risk of sexual victimization, and high rates of sexually transmitted infection. Evidence also suggests fertility among AI/AN women is declining substantially. In the context of decreasing fertility, continued unintended pregnancy, and multiple reproductive health disparities, a detailed look at reproductive health indicators among AI/AN women using survey data is needed. This study will use data from the National Survey of Family Growth to examine pregnancy intentions and fertility patterns among AI/AN women; examine contraceptive use behaviors and correlates among AI/AN women; and evaluate differences in fertility and reproductive and contraceptive behaviors between urban and rural AI/AN women.

Lois James (PI); Steve James – College of Nursing; Elson S. Floyd College of Medicine

Ottawa Police Association

“Comprehensive Fatigue Risk-Management Strategy for the Ottawa Police”

Sleep deprivation is associated with counterproductive behavior—such as impulsiveness, aggression, irritability, and angry outbursts. This makes it especially important for police officers to get adequate and healthful sleep to perform their duties at peak alertness levels. The WSU research team will address this critical need for the Ottawa Police Service by designing, implementing, and assessing a customized, comprehensive fatigue risk-management strategy. In addition to giving police service members the tools to manage their fatigue and promoting sleep hygiene, the strategy will also provide the organization with tools to help change the culture to support fatigue management, manage the costs of fatigue, and promote member health and wellness.

Liat Kriegel (PI) – Elson S. Floyd College of Medicine

Spokane County

“Pilot Peer Navigator Training Program (PPNTP)”

As part of this project, the principal investigator will provide support to Spokane County’s Pilot Peer Navigator Training Program. The program provides funding for peer navigators—individuals who have been directly or indirectly impacted by law and justice systems—to use their personal experience to assist others who are looking to stabilize from issues related to contact with the criminal justice system, such as mental health issues, housing and financial instability, and substance use disorders. The program will include leadership training and navigator and victim advocacy training and, upon completion, will provide participants with state certifications as community health workers and peer support specialists. WSU will help evaluate the program based on qualitative outcomes of leadership capacity building, community-system collaboration, knowledge and skills of navigators, and the navigator’s impact on individuals and families.

Anjali Kumar (PI); Charles Anderson – Elson S. Floyd College of Medicine

Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)

“Pre-procedural Virtual Reality to Mitigate Peri-procedural Anxiety in Children Undergoing General Anesthesia: A Pilot Study”

This study involves a randomized controlled trial to test the use of virtuality reality (VR) to reduce anxiety and stress in pediatric patients scheduled for general anesthesia. The hypothesis is that children who view a 3-minute VR tour of the hospital at their pre-procedural appointment will have a significant reduction in anxiety and stress on procedure day, as compared to children who receive standard preoperative preparation. The study will recruit 60 patients ages 2 – 12 who are scheduled to undergo cardiac catheter procedures that require general anesthesia at Providence Sacred Heart Children’s Hospital in Spokane. Reducing patients’ surgery-related anxiety could positively impact patient outcomes, especially in children.

Michael McDonell (PI); Liat Kriegel – Elson S. Floyd College of Medicine

Northwest Rural Health Network/U.S. Department of Health & Human Services, Health Resources and Services Administration

"Northwest Rural Health Network Rural Health Opioid Program"

This grant provides funding for WSU to support the efforts of the Rural Health Opioid Program, which is led by a network of 15 rural health systems across ten counties in Eastern Washington called the Northwest Rural Health Network (NWRHN). The goal of the Rural Health Opioid Program is to address the opioid epidemic in rural communities throughout eastern Washington. Among other objectives, the program will seek to empower rural communities to prevent opioid use; provide support and services for those with opioid use disorder; and reduce the number of opioid overdoses in rural communities by identifying those at risk and providing support for recovery.

Lindsey Miller (PI) – Elson S. Floyd College of Medicine

WSU Office of Research, New Faculty Seed Grant Program

"Effect of methylsulfonylmethane on cardiometabolic health in prediabetic obese adults"

Obesity is linked to high levels of inflammation, oxidative stress, and metabolic dysfunction, leading to heart disease, type 2 diabetes, and other diseases. Interventions to reduce inflammation and improve metabolic function could potentially be used to prevent obesity-related diseases. This study will investigate whether use of methylsulfonylmethane (MSM) as a dietary supplement improves metabolic health and markers of inflammation and oxidative status in obese men and women. MSM is a naturally occurring compound that has been shown to have antioxidant and anti-inflammatory effects. It is currently available as a common dietary supplement 'generally recognized as safe' by the Food and Drug Administration, but until now the effect of MSM supplementation on obesity-related diseases in humans has not been investigated.

Clemma Muller (PI); Amber Fyfe-Johnson – Elson S. Floyd College of Medicine/Community Health

Southcentral Foundation

"Southcentral Foundation Satellite Research Methods Core"

This contract provides funding for WSU researchers to support the Southcentral Foundation Satellite Research Methods Core. The core will provide quantitative research methods support, as well as other research support services to the Southcentral Foundation, a tribal health care services organization based in Anchorage, Alaska.

Lonnie Nelson (PI); Hans Van Dongen; Astrid Suchy-Dicey; Kimberly Honn; Celestina Barbosa-Leiker – College of Nursing/Community Health; Elson S. Floyd College of Medicine/Sleep and Performance Research Center

National Institutes of Health; National Institute of Minority Health Disparities

"American Indian CHronic disEase RIsk and Sleep Health (AI-CHERISH)"

Studies have suggested that sleep disorders are at least as prevalent among American Indians and Alaska Natives as they are in the U.S. population overall. However, there haven't been any studies that have extensively examined the epidemiology of sleep problems in a representative sample of American Indians. This award funds an innovative mixed-methods study that will allow the research team to estimate the prevalence of sleep problems in Native populations and their associations with specific cardiovascular and metabolic risk factors, as well as characterize cultural factors related to sleep health. The study will recruit 750 American Indian participants who were previously enrolled in the Strong Heart Family Study and will be the largest epidemiological examination of sleep health and cardiovascular and metabolic risk to date.

Julie Postma (PI); Tamara Odom-Maryon; Patricia Butterfield; Von Walden – College of Nursing; Elson S. Floyd College of Medicine; Voiland College of Engineering & Architecture

Sigma Theta Tau International

"Assessing Receipt of Air Quality Alerts in Spokane Residents"

This study will look at the extent to which individuals take protective action to limit their exposure to outdoor air pollution based on awareness of poor air quality. The long-term goal of this line of research is to communicate air quality risks to people in meaningful and actionable ways so they can protect themselves from the respiratory effects of air pollution. The researchers will look at the association between receipt of air quality alerts and changes in outdoor activities; the association between demographic characteristics and preferences for receipt of air quality alerts; and the acceptability of collecting and sharing de-identified personal health data through social media to encourage protective behaviors among others.

Janet Purath (PI); Sandy Carollo; Louise Kaplan; Tracy Klein; Anne Mason; Tamara Odom-Maryon; Marian Wilson – College of Nursing

US Department of Health & Human Services; Health Resources & Services Administration

"Washington State University-Advanced Nursing practice for rural, underserved in Eastern Washington (WSU-ANEW)"

This is a new award for a project aimed at building expanded capacity for training family nurse practitioners and psychiatric mental heal nurse practitioners to serve in rural and underserved areas in Eastern Washington. It builds on a partnership with the Community Health Association of Spokane that includes a joint appointment of a Nurse Practitioner Faculty in Residence. The program will provide traineeships to 39 full-time nurse practitioner students, who will complete longitudinal clinical training in clinics that provide care to underserved and rural populations in Eastern Washington. It will also provide an expanded preceptor education program, as well as marketing program that connects graduates to primary care employment in rural and underserved areas.Finally, the project will take on the challenges of substance use disorders with educational strategies to improve student, graduate, and community providers' knowledge and confidence in

caring for persons with substance use disorders.

Marian Wilson (PI); Barbara Richardson – College of Nursing; Elson S. Floyd College of Medicine

University of Washington/U.S. Department of Health & Human Services, Health Resources and Services Administration

"Training Teams in Rural Primary Care Settings to Assess Adults with Chronic Pain for Opioid Use Disorder and Reduce Harms Associated with Opioid Use"

The purpose of this project is to adapt and deliver a training on chronic pain and opioid use disorder to a multidisciplinary workforce in a rural primary care clinic setting. This will help providers recognize signs of opioid misuse, effectively screen for opioid use disorder, and link patients to appropriate treatment resources in a nonstigmatizing way. The training was originally developed for health sciences students after a pilot study confirmed knowledge gaps related to screening and treatment of opioid use disorder among participating students. Students who had completed the training reported greater understanding regarding pain management, opioid use and misuse, and shared decision-making. As part of this new project, the WSU team will revise the training curriculum to tailor it to primary care settings, train a graduate student to deliver the training, train 10 clinic staff; interpret evaluation findings to refine the curriculum, and transition the training to an online format.

Boyang Wu (PI) – College of Pharmacy & Pharmaceutical Sciences

US Department of Defense; Defense Health Agency

"The SEMA3E-Plexin D1-NRP2 Triad in Enzalutamide Resistance and Neuroendocrine Prostate Cancer"

Prostate cancer is the second leading cause of cancer death in American men—one in seven will develop prostate cancer during their lifetime. The primary driver of prostate cancer growth is androgen receptor, which regulates male hormones such as testosterone. The main treatment for prostate cancer currently consists of androgen deprivation therapy, which reduces testosterone to very low levels. In more than 90 percent of cases, prostate cancer initially responds to this therapy, but it will eventually relapse and progress into what is known as fatal castrate-resistant prostate cancer, which grows despite low testosterone levels. Enzalutamide (ENZ)—a substance that blocks androgen receptor, is one of very few treatment options in castrate-resistant prostate cancer. However, it provides clinical benefits for less than five months because resistance develops rapidly. Recent studies have also suggested an increased incidence of ENZ-resistant castrate-resistant prostate cancer that rapidly develops a phenotype similar to neuroendocrine prostate cancer, which is currently incurable and is associated with a survival time of less than seven months once diagnosed. This new study will attempt to uncover the mechanisms by which castrate-resistant prostate cancer turns into neuroendocrine prostate cancer, which will deepen the researcher's understanding of lethal disease progression and may lead to therapeutic strategies against these

aggressive prostate cancer variants.

AWARDS FOR ONGOING WORK

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

Dedra Buchwald (PI); Amanda Boyd – WSU Spokane/Elson S. Floyd College of Medicine/Community Health/Murrow College of Communication

University of Washington/National Institutes of Health; National Institute on Aging

"Alzheimer's Disease Research Center"

This subaward renews the funding for WSU's role in an NIH center grant to establish a satellite core of the Alzheimer's Disease Research Center in Seattle. The WSU team will conduct a research project that will recruit participants of the Strong Heart Stroke Study to examine stroke, vascular brain injury, cognitive function, and Alzheimer's disease and their consequences in about 450 elder American Indians. The Strong Heart Stroke Study is a follow-up study to the Strong Heart Study, a large longitudinal cohort study examining cardiovascular disease and its risk factors in American Indians.

Dedra Buchwald (PI); Lonnie Nelson – Elson S. Floyd College of Medicine/College of Nursing/Community Health

University of Washington/U.S. Department of Health & Human Services, Agency for Healthcare Research & Quality

"The University of Washington Patient Centered Outcomes Research Partnership (PCORP)"

This is renewal funding for WSU's contributions to the development of an online, interdisciplinary training on comparative effectiveness research and patient–centered outcomes research, a project that is being done in partnership with the University of Washington. The training will be provided to 24 trainees from partner organizations in Native American, Alaska Native, and rural populations. The ultimate goal is to develop a partner-driven model for a Patient–Centered Outcomes Research Partnership to help reduce population health disparities, especially in rural and Native populations.

Shobhan Gaddameedhi (PI) – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health; National Cancer Institute

"Chronotherapy as a Strategy to Attenuate Toxicity Associated with Cisplatin and Radiation Treatment for Triple-Negative Breast Cancer"

This funding continues a study is to better understand how the day-night rhythms driven by humans' circadian (or biological) clock could play a role in increasing the efficacy of cancer

treatment. The research team will be looking specifically at triple-negative breast cancer, which makes up about 10 to 20 percent of all breast cancers. Triple-negative breast cancer is most commonly treated with a drug known as cisplatin followed by radiation therapy. However, cisplatin's toxicity to the kidneys limits its use and effectiveness, and radiation therapy comes with side effects that include inflammation, radio-resistance, and tumor relapse. Using mouse models and human tumor tissue, the research team will test their hypothesis that cisplatin- and radiation-mediated toxicity and tumor shrinkage are regulated by the circadian clock, which may result in tumor cells that are more vulnerable to drug or radiation toxicity at certain time of the day when healthy tissues are more resistant to toxicity. If they can identify the underlying mechanisms, this knowledge could be used to optimize the use of chronotherapy—the administration of treatment at specific times of the day to maximize efficacy or minimize toxicity—in the treatment of triple-negative breast cancer.

Michael Gibson (PI); Jean-Baptiste Roullet – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health; National Eye Institute

"Rapalog Therapy in Heritable and Vigabatrin-Induced GBA Metabolic Disorders – Supplement"

This is continued funding for a four-year study that follows up on a discovery by the principal investigator that there is a relationship between increased GABA (gamma-aminobutyric acid—the primary central inhibitory neurotransmitter) and abnormal mTOR signaling. The mTOR protein is key for controlling autophagy, a normal physiological process that deals with destruction of cells in the body. As part of this work, it was found that rapalogs—a class of anticancer drugs that inhibit mTOR—could be used to override the negative effects associated with increases in GABA, which include toxicity to the eye. This study will test, in a mouse model, the hypothesis that autophagic pathways involving GABA and mTOR can be mitigated with rapalog medications and assess the effectiveness of those drugs at mitigating ocular toxicity. If their hypothesis holds up, this work could have implications for patients who have heritable disorders of the GABA metabolism—such as succinic semialdehyde dehydrogenase deficiency (SSADHD)—or experience elevated levels of GABA resulting from the use of the antiepileptic drug Vigabatrin, which inhibits the breakdown of GABA.

Zachary Hamilton (PI) – College of Arts and Sciences, Department of Criminal Justice and Criminology

Washington State Department of Corrections

"DOC WSU Interagency Agreement"

This is renewal funding for the research partnership between the Washington State Department of Corrections and the WSU Department of Criminal Justice and Criminology. The contract provides for joint funding of a PhD-level graduate research assistant to manage, organize and prepare data to support research projects and to respond to grant solicitations as they evolve, based on the parties' collaborative efforts.

Zachary Hamilton (PI) – College of Arts & Sciences, Dept. of Criminal Justice & Criminology

Washington State Department of Corrections

"Washington State Department of Corrections STRONG-R Project"

This is renewal funding for WSU's assistance with the creation and implementation of a set of tools to assess the risk of re-offense for felons convicted and sentenced in the state of Washington. This phase of the project consists of a pilot study to examine the impact of the new tool on the current population, the development of quality assurance procedures, and the creation of a menu of interventions. The work will help the Washington Department of Corrections guide their efforts around best practices for supervision, intervention prioritization, and resource allotment.

James Krueger (PI); Ping Taishi – College of Veterinary Medicine

National Institutes of Health; National Institute of Neurological Disorders and Stroke

"Interleukin-1: A Promoter of Slow Wave Sleep"

This is continued funding for a five-year project to characterize the role of interleukin-1β (IL1) in sleep regulation and brain plasticity and repair processes. As part of the study, the researchers will describe IL1 sleep signaling mechanisms, including the role of the neuron-specific IL1 receptor accessory protein (AcPb) in physiological sleep.

Philip Lazarus (PI) – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health; National Institute of Environmental Health Services

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

This is continued funding for a research study to determine whether two enzymes known as 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); Oladunni Oluwoye – Elson S. Floyd College of Medicine

Washington State Department of Social and Health Services/National Institutes of Health; Substance Abuse and Mental Health Services Administration

"First Episode Psychosis Evaluation"

This is supplemental funding for a grant that funds activities related to the evaluation of the Washington State Department of Behavioral Health and Recovery's first episode psychosis New Journeys program in Yakima County. The first episode psychosis New Journeys program was launched to enhance the recognition of early signs and symptoms of psychosis so that effective treatment can be started promptly. WSU led the quantitative evaluation of the program and worked with the University of Washington to conduct the qualitative evaluation. This supplement pays for

the development of materials to disseminate the evaluation findings, such as a website, brochures, flyers, and videos.

James Mohr (PI) – WSU Spokane, Office of Student Affairs

U.S. Dept. of Education; Office of Postsecondary Education

"Washington State University Spokane Stevens County Upward Bound (WSUSSCUB)"

This grant provides renewal funding from the federal TRIO programs for the Upward Bound program. Upward Bound is designed to generate the skills and motivation necessary for success in education beyond high school among young people from low–income families and families where neither parent has acquired a bachelor's degree. Upward Bound provides program participants with fundamental support in their preparation for college entrance. This Upward Bound project housed at WSU Spokane focuses on three small high schools in Stevens County.

Lonnie Nelson (PI); Cara Carty – College of Nursing/ Community Health

University of New Mexico/National Institutes of Health

"Rhythm and Timing Exercises for Cerebrovascular Disease in American Indians"

This funding renews a subaward for a study to determine whether culturally adapted interactive metronome therapy can improve cognitive function among older American Indians with cerebrovascular disease. Interactive metronome is a form of behavioral therapy that attempts to improve cognitive functioning through mass-practice of simple, repetitive millisecond timing motor tasks—such as clapping hands or tapping feet—in time with a set beat. Through visual and auditory feedback, interactive metronome addresses processing speed, attention, and immediate and delayed memory, all of which can be affected by cerebrovascular disease.

Lonnie Nelson (PI) – College of Nursing/Community Health

National Institutes of Health; National Institute on Minority Health and Health Disparities

"Administrative Supplement to Caring Texts: A Strength–Based, Suicide Prevention Trial in 4 Native Communities"

This concerns study of the effectiveness of the Caring Contacts approach as a way of reducing suicidal ideation, suicide attempts, and suicide-related hospitalizations among Native American young adults. A recent study has found that suicide rates for Native American young adults in the Northern Plains and Alaska are much higher than those for white Americans in the same regions. The Caring Contacts approach uses text messages expressing care, concern, and interest to supplement standard suicide prevention. In a randomized, controlled trial, this study will compare the use of the Caring Contacts approach as a supplement to usual suicide prevention care versus usual care only in at-risk Native American young adults over a 12-month period. This award continues funding for an administrative supplement that adds an extra follow-up assessment 6 months after participants complete their intervention.

Mary Paine (PI) – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health; National Center for Complementary and Integrative Health

"Supplement to Natural Product Drug Interaction Research: Roadmap to Best Practices – Single Lab Validation of Kratom (Mitragyna speciosa)"

This award provides supplemental funding for natural product-drug interaction research on several high priority natural products studied within the Center of Excellence for Natural Product Drug Interaction Research based at WSU. Specifically, it enables the researchers to expand on previous research on kratom, a substance made from the leaves of a tropical opioid-producing tree. Kratom's increasing usage in the United States is somewhat controversial, as some people believe it can be used to relieve pain while others believe it is addictive. The goal of this new study is to develop a single lab validated method to analyze the major alkaloids in kratom extract. The ultimate goal of all research done within the center is to develop a set of recommended approaches for natural product-drug interaction research that would lead to improved design of future natural product-drug interaction research and, ultimately, improved decisions on the optimal management of clinically relevant natural product-drug interactions.

Jonathan Potter (PI) – Spokane Academic Library

University of Washington/National Institutes of Health

"Be Boundless: Regional Medical Library NN/LM PNR (region 6)"

This grant provides the WSU Spokane Academic Library with continued funds to partner with the Regional Medical Library to advance the progress of medicine and improve public health. It helps to establish the library as an outreach library in Washington for the Pacific Northwest Region of the National Network of Libraries of Medicine, helping to strengthen health care and advancing the health, safety, and well–being of the American people by improving access to health and biomedical information in Washington.

Ka'imi Sinclair (PI) – College of Nursing/Community Health

Confederated Tribes of the Colville Reservation

"A Culturally Tailored Intervention to Prevent Diabetes in American Indian Men"

This is renewal funding for a mixed methods study to adapt and test an evidence–based diabetes intervention for high–risk reservation–based American Indian men. The study will have an important public health impact by helping to identify variables involved in the initiation of weight reduction and promoting healthy behavior in a hard–to–reach population.

Hans Van Dongen (PI); Kimberly Honn – Elson S. Floyd College of Medicine/Sleep & Performance Research Center

FEDEX

“SERVICE ORDER #3: FedEx FRM Scientific Advice”

This award provides two years of continued funding for a contract for statistical analyses and scientific advice on fatigue risk management (FRM) for FedEx pilots flying cargo planes between airport hubs at night. This service order also involves the further development of WSU’s mathematical model for the prediction of fatigue for use in 24-hour across-the-world cargo flight operations.

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

LA BioMed/National Institutes of Health

“Understanding Hormonal Mechanisms of Sleep Restriction”

This is continued funding of a subcontract for a study of the hormonal mechanisms that underlie insulin resistance resulting from sleep restriction, which contributes to the development of type 2 diabetes. Van Dongen will provide expertise on sleepiness and cognitive performance testing and study design, as well as data processing and analysis.

Zhenjia Wang (PI) – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health; National Institute of General Medical Sciences

“Neutrophil-mediated Drug Delivery – Administrative Supplement for Equipment”

This is supplemental funding for a five–year project to study how neutrophils—the most abundant type of white blood cells in the bloodstream—could be used as a vehicle for delivering therapeutic nanoparticles to specific parts of the body. This work may help design new drugs to treat inflammatory disorders underlying acute and chronic diseases, including cancer. Specifically, the study will look at the efficacy of using neutrophil–mediated nanoparticle transport to treat acute lung injury, a devastating disease that cannot currently be treated with drugs. The supplement pays for an upgrade to the intravital microscope used by the principal investigator to conduct this study.

Jiyue Zhu (PI) – College of Pharmacy & Pharmaceutical Sciences

National Institutes of Health, National Institute for General Medical Sciences

“Repression of the hTERT gene during cell differentiation”

This award continues a research study aimed at unraveling the mechanisms by which telomerase is regulated during development. Telomerase is an enzyme that lengthens telomeres in DNA strands, which allows cells to become immortal. It plays a key role in cell aging and tumor progression. This study will look at the gene that encodes a component of telomerase known as hTERT and how the gene is repressed during cell differentiation (the process by which a less specialized cell becomes a more specialized cell type). The goal of the study is to determine how telomere homeostasis contributes to human aging and the formation of tumors.