WIPING OUR LENSES

In February 2020 I had the privilege to return to New Zealand (known as Aotearoa in the Māori language) with a group of Indigenous Canadians, my friend Jennifer from Menominee, and others. We went on an Indigenous knowledge exchange, and we spent 10 days traveling the north island to different *marae* (communal and sacred meeting grounds) with several of our Māori friends. This was an immersive experience in Māori culture, language, food, and spirituality. Even though I’ve worked with Native American communities here in the United States for many years, the intactness and immersion that we experienced on this trip together was an intense, beautiful, and life-changing experience.

Within two weeks of my return, we were in lockdown with the COVID-19 craziness, followed by the onslaught of mask debates, toxic election politics, and the George Floyd murder and its aftermath. The intensity of this divisiveness in American culture that we’ve experienced both locally and nationally in the nearly two years since is in stark contrast to what I experienced in Aotearoa. The beauty of that full immersion into the Indigenous world made managing the rest of what’s happened both easier and harder, as it was such a culture shock being back in the chaos here.

In the time since, one of the important comments I remember was something our friend Helen, a lovely Irish woman, said: “We need to wipe our lenses.” We did a deep dive into understanding the role of colonization around the world and its ongoing devastating effects on Indigenous communities internationally, as well as our often unwilling complicity in it. We also considered what decolonizing or reindigenizing might mean in different contexts and to different people in Aotearoa, Canada, Ireland, and the United States.

Much of what I’ve been examining personally lately is deepening my understanding of the tool of race and the construction of race and racism early in our history used to justify colonization, genocide, and slavery, as well as my understanding of the depths in which we live in a society still dominated by white male patriarchy and societal ideas based on exploitation and hierarchical linear models of thought and leadership. During this time, I’ve had the opportunity to work on the *Climate Change and Human Health in Montana* special report, and it became even more clear to me that this worldview is what’s killing the planet. The idea of humanity as supreme and above all other creatures vs. the worldview that we are but a small part of a larger system is one critical difference between Indigenous and Western thought. We must understand that we all have an Indigenous history somewhere—and that in all of our spiritual and cultural traditions there was an honoring of the Earth, the sacredness of all beings, and the responsibility we have to be caretakers and not takers of the Earth and her gifts.

So, this season I’m especially grateful for the lessons I’m learning daily from my Indigenous friends and colleagues, and my ancestors both good and bad. And I’m grateful for the journeys both outward and inward that are helping me “wipe my lenses” and begin to see more clearly the toxic soup that we swim in as a culture. I believe that it’s only by seeing this toxicity and naming the various forms of it that we can find a way forward together for each other and for the planet.

Alexandra Adams, M.D., Ph.D.
Director and Principal Investigator

For Healthy Communities Under the Big Sky
ALEX ADAMS ELECTED AS MEMBER OF NATIONAL ACADEMY OF MEDICINE

By Marshall Swearingen

www.montana.edu/cairhe

Alex Adams, M.D., Ph.D., known nationwide for her work to improve health in rural and Indigenous communities, was elected in October to the National Academy of Medicine, considered one of the highest honors in the fields of health and medicine.

Adams was named one of 100 new members in conjunction with the Academy’s annual meeting. The honor recognizes individuals who have demonstrated outstanding professional achievement.

An announcement from the Academy cited Adams’s work “partnering with Indigenous communities in the Midwest and Montana and pioneering community-engaged research methods.”

“Today we celebrate with Dr. Adams, whose work is improving lives every day across all corners of Montana,” MSU President Peter Buerhaus, Ph.D., professor in Montana State University’s Department of Family Medicine, said in an announcement. “We are very deserving of this honor.”

As director of CAIRHE since 2016, Adams has played a key role in building the center, founded in 2014, into a multidisciplinary network of researchers, faculty members, and students spanning several colleges and a half dozen departments at MSU. In addition to funding multiple faculty research projects and smaller pilot projects that work with Native American and rural partners across the state, CAIRHE mentors junior faculty investigators to become independently funded researchers who hold the highest level of grant funding from the NIH or other national grant-awarding agencies.

“T’m extremely honored to be elected to the National Academy of Medicine and am so grateful to all of my Indigenous community partners for their teachings in our work together,” Adams said.

Urban-Champaign. She completed her residency in family medicine at the University of Wisconsin Hospital/St. Mary’s Hospital in Madison. (A recent graduate by the American Academy of Family Physicians tells more of Adams’s backstory and the beginning of her work with Native communities.)

New members of the National Academy of Medicine are elected by current members through a process that recognizes individuals who have made major contributions to the advancement of medical sciences, health care, and public health. One of Adams’s mentors, Erik Brodt, M.D., of Oregon Health & Science University, also was elected to the Academy in this class.

The National Academy of Medicine, established in 1970 as the Institute of Medicine and the National Academy of Engineering as an adviser to the nation and the international community. Through its domestic and global initiatives, the NAM works to address critical issues in health, medicine, and related policy and inspire positive action across sectors. The NAM collaborates closely with its peer academies and other divisions within the National Academies of Sciences, Engineering, and Medicine. With their election, NAM members make a commitment to volunteer their service in National Academies activities.

Adams is the third MSU faculty member to serve in a national academy. Regents Professor Cathy Whitlock, Ph.D., in MSU’s Department of Earth Sciences was inducted into the National Academy of Sciences in 2019, and Peter Buerhaus, Ph.D., professor in MSU’s College of Nursing, was elected into the National Academy of Medicine in 2003 while at Vanderbilt University, before coming to MSU.

NEHA JOHN-HENDERSON AWARDED $2.2 MILLION NIH R01 GRANT

Long before “social distancing” became a household phrase, “Alex’s sustained and impactful scholarship has been possible because of genuine partnerships with rural and Indigenous communities and is a national model for how to inclusively tackle health disparities,” said Jason Carter, Ph.D., MSU’s vice president for research, economic development, and graduate education. and social relationships—will be associated with improvements in sleep quality, mental health, and levels of immune system proteins and cardiometabolic markers as measured in blood samples.

The study also will consider shorter-term effects of daily social interaction on health. Participants will report on positive and negative social interactions six times a day using a mobile phone app, while a device worn on the wrist during the same two-week period will measure activity and sleep. Surveys will assess a participant’s mental well-being.

“Social connectedness is a valued and foundational element within tribal communities,” said Carter, who will serve as a co-investigator on the study. “The COVID-19 pandemic has only reinforced the Native American belief in the values of community, including the need for people to be connected in modified and mitigated ways. This partnership with the Blackfeet community will significantly advance our understanding of the complex relationships between social connectedness, health, sleep, and cardiometabolic health in ways that will help tribal communities be better prepared for future pandemics and adversities.”

In her preliminary work on the Blackfeet Reservation, including a study funded by the National Institute of Mental Health in 2017, John-Henderson found that community connectedness appears to offset physiological risk for disease, particularly among individuals who experienced high levels of trauma early in life. Meanwhile, feelings of loneliness and perceptions of less community connection were associated with more anxiety and depression.

A separate CAIRHE study she led found that frequency of positive social interactions was associated with decreased blood pressure, and that average perceived social connectedness was inversely related to levels of immune system inflammation. Adults who reported more loneliness across a one-week period also experienced worse sleep quality and higher levels of anxiety and depression. Conversely, having a larger and more diverse social network can protect against depression and even physical risk factors such as high blood pressure.

“They acknowledge that social connectedness may be a resilience factor that promotes better health and well-being in communities. We’re excited that findings from a new, larger study could lead to innovative Blackfeet social interactions and greater reports of social connectedness will be associated with lower risk for mental health disorders and chronic disease. Conversely, a separate CAIRHE study she led found that community connectedness may be a resilience factor that promotes better health and well-being in communities. We’re excited that findings from a new, larger study could lead to innovative Blackfeet interactions and greater reports of social connectedness will be associated with lower risk for mental health disorders and chronic disease. Conversely, having a larger and more diverse social network can protect against depression and even physical risk factors such as high blood pressure.”

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Andreas Thorsen, Ph.D., and co-investigator Maggie Thorsen, Ph.D. (Modeling Rural Perinatal Health Outcomes and Service Resources and Services Administration Secretary's Advisory Committee on Infant Mortality. This engagement has supported important data collection efforts for maternal health including the latest survey for Montana of the Center for Disease Control and Prevention's Levels of Care Assessment Tool, as well as the most recent multi-method design to investigate predictors and psychological Findings from this study suggest that youth who are more socially isolated also experience more sleep disturbances. Data collection is underway for one aim of the study using a multi-informant, multi-method design to investigate predictors and psychological correlates of sleep disturbances within Beaverhead County. Dr. Palmer also has worked with MSU HELP Lab to collect a representative sample of teenagers across the state of Montana for the second and third aims of the study. This data will provide information on the rates of sleep health disparities across the state, an understanding of the barriers to sleep-based health care and education, and knowledge related to community-, family-, and individual-level risk and protective factors for sleep health. She continues to develop two R01 applications, including one with her CAIRHE mentor, Jason Carter, Ph.D., focused on the ways that sleep patterns predict how youth process and respond to positive experiences in ways that make them more or less susceptible to mental health difficulties.

Margetts also met with Margaret Anne Yellow Kidney of All Nations Health Center in Missoula to learn of priorities and challenges facing urban and rural Native American communities. The project's Clinical Advisory Board met in early December. Earlier this fall, Dr. Margetts and several of her project colleagues were part of a team led by PI Alva Mays-Garza of Yale University that submitted an R03 grant application for a planned submission in March. They continue to work with their CAIRHE mentor, College of Nursing Dean Sarah Shannon, Ph.D., RN.

CAIRHE Director Alex Adams, M.D., Ph.D., and CAIRHE External Advisory Committee member Dr. Margaret White, M.P.H., led the workshop's agenda. Adams is associate dean of the Montana State University, the University of North Dakota, the University of Wisconsin, and Kaiser Permanente. CAIRHE Assistant Research Professor Veronica Grant, Ph.D., was the only participant from MSU. The workshop was made possible through a subcontract from the National Cancer Institute and support from MSU’s Office of Research, Economic Development, and Graduate Education. Two longtime NIH program officers, Shobha Sinhaasam, Ph.D., from the National Cancer Institute and Kathy Ezr, Ph.D., from the National Institute on Drug Abuse, attended and served as presenters and mentors during the event.

PRL is the second such workshop hosted by CAIRHE. Its predecessor, called “Bridging the Gap: From Application to Funding,” was held on the MSU campus in February 2019. That event focused more specifically on grant writing—in particular the resurrection of grant applications to the NIH—but was adapted and expanded in scope for the different cohort of investigators attending PRL.

In post-event surveys, participants reported they were “very satisfied” or “satisfied” with the workshop overall. “I truly enjoyed spending time and meeting with my mentor, and to meet and hear from NIH program officers is invaluable,” said one participant in an anonymous evaluation. “I am tremendously grateful for this event and knowledge related to community-, family-, and individual-level risk and protective factors for sleep health. She continues to develop two R01 applications, including one with her CAIRHE mentor, Jason Carter, Ph.D., focused on the ways that sleep patterns predict how youth process and respond to positive experiences in ways that make them more or less susceptible to mental health difficulties.

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disparities to advance rural health research. Four NIH institutes, including the National Institute on Minority Health and Health Disparities, co-hosted the event. The 2021 virtual event featured panel discussions, presentations, and early-stage investigator talks organized in three tracks: socio-cultural and economic determinants of health in rural populations; physical environmental determinants of health in rural populations; and evaluation, measurements, and policy implications on rural health. Adams served on a discussion panel for the first track, and Thorsen presented as one of five early-stage investigators from across the country.

Adams began with an overview of disparities observed by CAIRHE faculty working with rural and Native communities, including a lack of primary and preventive health care and high levels of food insecurity. One glaring issue emerging in rural areas is the health impact of climate change, she said. Fire, drought, flooding, and water shortages will be drivers of health disparities, including negative mental health outcomes, both now and in the future. “I think it’s going to be worse in rural areas,” she said. Adams cited CAIRHE’s work on last year’s Climate Change and Human Health in Montana special report. Then she discussed how inequity in communities in Wisconsin, where small individual- and family-level behavior changes in childhood obesity expanded upward to policy changes and inform larger changes in the state.

Maggie Thorsen, with co-investigator Ph.D., and others, that the community level to combat deeper issues, especially trauma. Looking at the facilities where women have actually delivered births to white women were more likely to occur at a Level 2 facility than a Level 1, while births to American Indian women were more likely to occur at a Level 1 facility. “However, American Indian women were over 20 times more likely to give birth at a hospital that lacked an obstetric unit, or Lev-1.0,” he noted.

American Indian women also tended to travel significantly farther to give birth, even when compared to white women living in similar situations. “Even with policy efforts to increase the number of professionals in underserved areas, our findings suggest that racial disparities and access to complex obstetric care will persist unless facility-level infrastructure also expand to reach areas serving American Indian women,” Thorsen said.

HERB VISITS ST. IGNATIUS, BUTTE WITH MONTANA SHAKESPEARE IN THE PARKS

By MSU News Service

In partnership with Montana Shakespeare in the Parks (MSIP), CAIRHE’s Health Education and Research Bus, known as HERB, made appearances prior to MSIP productions last summer in St. Ignatius and Butte.

HERB was on hand at Good Ole Days Park in St. Ignatius on Friday, August 27, and at Butte’s Stoddin Park on Thursday, September 2, where the public visited displays before performances of Shakespeare’s "A Midsummer Night’s Dream" in both towns. CAIRHE researchers Dan Autenreith and Julie Hart of Montana Tech and Clay Comstock of Salish Kootenai College, along with students, shared information on how to make do-it-yourself air cleaners to control wildfire smoke exposures and talked about their wildfire smoke research.

CAIRHE and Montana INBRE maintain HERB as a research and educational outreach facility serving Montana’s rural and frontier communities. Since 2019, the 25-foot RV, acquired with funding from the National Institutes of Health, has promoted partnerships among health researchers and rural and Native communities, health organizations, and other public health stakeholders across Montana.

Besides being a hub for health research activities, HERB is a place where communities can talk with health investigators and learn about health topics, said Susan Higgins, M.S., at the time the community research associate with CAIRHE and INBRE who coordinated the event with MSIP. “We so appreciate all that Montana Shakespeare in the Parks brings to our Montana communities, and we’re happy to showcase HERB in conjunction with these two productions,” Higgins said in August.

Having recently completed its 49th summer season, Montana Shakespeare in the Parks is the only professional theater touring program in its five-state region that produces Shakespeare’s plays. The program engages more than 61 communities, many of which are rural and underserved.

SUE HIGGINS RETIRES FROM CAIRHE AND MONTANA INBRE IN OCTOBER

Susan Higgins, M.S., community research associate for CAIRHE and Montana INBRE since 2017, retired from MSU on October 1. Her final year with both programs included co-authoring the Climate Change and Human Health in Montana special report, hosting the 2020-21 Health Equity Webinar Series, serving as part of the Montana IDeA Community Engagement Core, and compiling the Resources of the Week email newsletter for health researchers, which she continues to produce in retirement. “Sue was a crucial part of CAIRHE’s community engagement efforts over the past four years, and she really helped us expand meaningfully into rural communities across the state,” said CAIRHE Director Alex Adams. “While we’re excited for her well-deserved retirement, we’re also sad to see her go. She has left big shoes to fill.”

Higgins joined CAIRHE in November 2017, and in the years since she was instrumental in helping CAIRHE faculty establish community partnerships in rural areas across the state, as well as developing the CAIRHE Health Equity Network. She also oversaw the acquisition of the Health Education and Research Bus (HERB) and helped manage its use. “CAIRHE is the backbone of a water resource planning and then working alongside the fine people at CAIRHE and INBRE confirmed in me that human health and the health of our environment are vitally linked,” Higgins said. “Our investigators are dedicated to ensuring that these resources are both relevant and invested in our small communities, and that makes all the difference. “It’s been an honor to work with them, and to elevate collaborations between academia and statewide groups,” she added.

In the early weeks of her retirement, Higgins has continued to stay involved with the community through service on a few boards and in helping to produce a film on the impacts of climate change on health in Montana. “Sometimes I wake up and think I’ve made a big mistake to retire,” she said. “I will miss this great team, but I’m not going to disappear.”

BYKER SHANKS ASSUMES NEW POSITION WITH GRETCHEN SWANSON CENTER

Carmen Byker Shanks, Ph.D., RDN, a CAIRHE research project leader for three years (2018-21), assumed a new post at the Gretchen Swanson Center for Nutrition beginning in August. She remains affiliated with MSU as research and teaching faculty after serving as an assistant and associate professor in the Department of Health and Human Development for 10 years.

Working remotely from Bozeman for the Center’s first year, which was based in Helena, Andy Byker Shanks is principal research scientist, providing a high level of leadership on complex research and evaluation projects. The mission of the Swanson Center, an independent research institution, is to “provide scientific expertise, partnership, and resources to improve diet and physical activity behaviors among youth and their families to help grow a healthier next generation.”

At the time of her move Byker Shanks already had close collaboration with the Center, including Executive Director Amy Lazarus Varoeh, Ph.D.

“The position at the Center provides me with the opportunity to grow overwhelmingly as a scientist and expand my experiences in public health nutrition research,” Byker Shanks said. “A large part of my role is dedicated to leadership in the Canary NTAH, which evaluates the impact of nutrition incentives nationwide on dietary quality, food security, and health.”

She added that the decision to leave MSU and CAIRHE was a difficult one. “This decision to accept a new position is bittersweet,” she said. “I’ve cherished my tenure-track role at MSU for the past decade, but am excited to strengthen my skills and network in my new position.”
Q&A WITH ALEX ADAMS: YOUR NUTRITION AND HEALTH

(The following interview with CAIRHE Director Alex Adams appeared as part of a低头 to Engineering Obesity article in The State in August by Adam McCann, that appeared on the website WallaWallaOnline.com on November 15. It is reprinted here with permission from WallaWallaPub.)

What are some tips for eating healthy without breaking the bank?

Alex Adams: One of the biggest misconceptions is that eating healthy is more expensive. And it can be, but it really depends on what you are purchasing. A high-quality plant-based diet with plenty of legumes, beans, rice, and fruits and vegetables is not only high in fiber, antioxidants, and phytonutrients, but also is cheaper and healthier than a more meat-based diet.

Learning to cook simple plant-based meals is critical, as it is learning to use unprocessed ingredients that are cheaper. For example, it is much cheaper to make homemade rice than to buy packaged rice products. While this can be more time-consuming, there are so many sites, recipe books, and plant-based diet experts that can detail ways to cook meals or staples such as beans ahead of time so that save time and money. Eating out is also much more expensive than eating at home, so this is really important. Packaged and processed foods found in the frozen, boxed, or canned goods sections found in the center of the grocery store tend to be the most expensive.

The CDC has expanded the risk for severe illness to include not just obese people, but overweight people as well. What proactive measures can people take to prevent severe complications in the event they contract COVID-19?

A.A.: There is no research in this area yet, but following CDC guidelines, I suggest eating the healthiest foods possible when sick, including fruits and vegetables; decreasing or eliminating added sugars; and continuing to include good foods sources of vitamins D, as lower vitamin D levels have been found in more seriously ill patients with COVID.

Vitamin D levels are low in the U.S. in most populations, and five to 10 minutes of sun exposure on some or most days of the week to the arms, legs, or back without sunscreen will enable you to make enough vitamin D if you are able to seaseason. Good food sources of vitamin D include fatty fish (such as tuna, mackerel, and salmon), foods fortified with vitamin D (such as dairy products, soy milk, and cereal), and cheese, and egg yolks. Avoiding unproven treatments such as vitamin D cream is critical for patients with known vitamin D deficiency who need newer antiviral treatments that should be approved this year.

What has been the effect of limited access to fitness and recreational facilities on overweight and obese people during this last year?

A.A.: A very large recent study showed that nearly as many people as lost weight (35%) during the pandemic as gained weight (39%). The combination of lost fitness and recreational facility access may have affected people and had a negative effect on weight gain, but weight changes in pre-diabetes is extremely common and underdiagnosed in the U.S. This condition both causes weight gain and is a precursor to additional weight gain, and this vicious cycle must be addressed. Other issues that can cause weight gain are lack of sleep, increased stress, and a sedentary lifestyle—all of which can cause hormonal imbalances and weight gain. I think we often overlook the simple solutions such as improving sleep, stress reduction, eating more fruits and vegetables, and avoiding fast food as critical to weight loss. And eliminating sugared drinks and eating snacks on the go is a long way toward reducing calories and normalizing insulin levels.

Lastly, stress is a highly overlooked factor in weight gain. Stress is associated with increased cortisol levels, which in turn have been associated with increased intake of high-calorie foods, which are foods high in salt, fat, and sugar. Our bodies may also metabolize food more slowly when under stress. In stress, and high cortisol levels are associated with increased appetite, and reduced stress. Eating slow meals can reduce lean muscle mass, which lowers your metabolic rate or the number of calories you burn at rest. Stress can also reduce the quantity and quality of restful sleep.

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A.A.: A very large recent study showed that nearly as many people as lost weight (35%) during the pandemic as gained weight (39%). The combination of lost fitness and recreational facility access may have affected people and had a negative effect on weight gain, but weight changes in pre-diabetes is extremely common and underdiagnosed in the U.S. This condition both causes weight gain and is a precursor to additional weight gain, and this vicious cycle must be addressed. Other issues that can cause weight gain are lack of sleep, increased stress, and a sedentary lifestyle—all of which can cause hormonal imbalances and weight gain. I think we often overlook the simple solutions such as improving sleep, stress reduction, eating more fruits and vegetables, and avoiding fast food as critical to weight loss. And eliminating sugared drinks and eating snacks on the go is a long way toward reducing calories and normalizing insulin levels.

Lastly, stress is a highly overlooked factor in weight gain. Stress is associated with increased cortisol levels, which in turn have been associated with increased intake of high-calorie foods, which are foods high in salt, fat, and sugar. Our bodies may also metabolize food more slowly when under stress. In stress, and high cortisol levels are associated with increased appetite, and reduced stress. Eating slow meals can reduce lean muscle mass, which lowers your metabolic rate or the number of calories you burn at rest. Stress can also reduce the quantity and quality of restful sleep.

The CDC has emphasized the risk for severe illness to include not just obese people, but overweight people as well. What proactive measures can people take to prevent severe complications in the event they contract COVID-19?

A.A.: There is no research in this area yet, but following CDC guidelines, I suggest eating the healthiest foods possible when sick, including fruits and vegetables; decreasing or eliminating added sugars; and continuing to include good foods sources of vitamins D, as lower vitamin D levels have been found in more seriously ill patients with COVID.

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