



CAIRHE

CENTER FOR AMERICAN INDIAN AND RURAL HEALTH EQUITY



ADDRESSING THE HEALTH EFFECTS OF CLIMATE CHANGE

On December 8, CAIRHE and several close partners launched *Climate Change and Human Health in Montana: A Special Report of the Montana Climate Assessment*, or *C2H2*. You can read all about this important development on page 7.

We all know that the effects of climate change are not just in our future. They're here *now* in the form of wildfires and smoke, flooding, and even vector-borne disease like the current pandemic. (See pages 2, 6, and 8 for news on CAIRHE's latest COVID-19 research.)

Climate change is already affecting our loved ones and our communities—today.

With the *C2H2* report we want to open a conversation statewide about the critical effects of climate change on human health in Montana, especially for our most vulnerable populations who will be hardest hit by wildfires, droughts, and their economic impact. And we want to send a message of hope by giving individuals, communities, and health care organizations actionable ways to mitigate and adapt to these changes.

We also highlight some of the fantastic work that several Montana communities are doing in climate and health that can serve as models for other communities.

C2H2 is the culmination of two years of planning, research, and collaborative writing by many people. It's the first document of this type written specifically for Montana by Montanans. (See the link on page 7 to access the complete report.)

I care about this topic because I'm a physician who has worked to improve the health of rural and Indigenous populations during my entire career. But I'm also a mother.

My oldest son, Duncan, lives in Seattle, and he has asthma. During the worst 10 days of fire and smoke this summer, I checked my phone daily for air quality updates both here and in Washington, and I spoke to Duncan often. He was stuck inside, working from home. He's an engineer, so he was running two HEPA filters in his house, and he'd even rigged up a homemade indoor air quality meter!

I remember the heaviness in my chest as I walked outside in the smoke here in Bozeman, imagining how much worse it was for Duncan. But I also had a heaviness in my heart worrying about all of the people in the West who didn't have access to air filters or the ability to stay inside to work.

My motivation for doing this work on climate change and health is not only to protect my children, but also to protect our most vulnerable populations—including the elderly, children, pregnant women, those with chronic disease, and rural and tribal populations.

It's our hope that this report will help us come together as a state to address this major challenge of our time, enabling our communities to not only adapt but thrive. Thank you for reading about this and other recent developments at CAIRHE in this issue, and Happy Holidays!

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

For Healthy Communities Under the Big Sky

RESEARCH

CAIRHE AWARDED \$1.8 MILLION GRANT FOR COVID-19 TESTING STUDY

The Center for American Indian and Rural Health Equity at Montana State University has been awarded a two-year grant from the National Institutes of Health to examine COVID-19 testing strategies among underserved populations in Montana and Washington.

The grant of \$1,797,140 to CAIRHE is part of the NIH's \$1.4 billion Rapid Acceleration of Diagnostics initiative, or RADx, created in the early weeks of the COVID-19 pandemic to address the need for scaled-up testing across the country. A component targeting underserved populations known as RADx-UP funds community-engaged projects, including CAIRHE's, that partner with vulnerable communities hardest hit by the pandemic.

The CAIRHE project is one of 70 RADx-UP grants nationwide and the only one in Montana.

"The significant health disparities that already existed among Native and rural communities in Montana and our region have



Alex Adams stands in CAIRHE's state-of-the-art Translational Biomarkers Core Lab.

become even more pronounced with COVID-19," said physician **Alex Adams**, director of CAIRHE and principal investigator for the new study. "Because of poor access to testing in those areas and high rates of existing chronic disease, we are very concerned about the significant impact of COVID-19 in these communities."

CAIRHE and MSU will lead the study, partnering with the University of Washington's School of Medicine and Institute of Translational Health Sciences (ITHS); the Fred Hutchinson Cancer Research Center in Seattle; and Salish Kootenai College and the Con-

federated Salish and Kootenai Tribes on the Flathead Reservation in Montana. A local community advisory board will be involved in all stages of the research in each study location.

"Montana State is committed to building strong, equitable, and sustainable partnerships with tribal nations, as well as the University of Washington's ITHS program," said **Jason Carter**, MSU vice president of Research, Economic Development, and Graduate Education. "Dr. Adams and her CAIRHE team are experienced at building meaningful and impactful partnerships, and I am not at all surprised by the NIH investment to this remarkable team."

The Washington team—led by physicians **Matthew Thompson** and **Paul Drain** at UW—will provide expertise on home-based testing as part of the Seattle Coronavirus Assessment Network. Behavioral scientist **Linda Ko**, Ph.D., MPH, at Fred Hutchinson and her team will work with their community partners in Washington's Yakima Valley, home to a large Latino population that includes migrant agricultural workers.

The Montana team—led by Adams and **Selena Ahmed**, Ph.D., at CAIRHE, with **Virgil Dupuis** and **Wendy Westbrook**, Ph.D., at Salish Kootenai College—will use CAIRHE's existing research partnerships on the Flathead Reservation to study testing approaches among the area's Native population.

"These communities are very similar in the rural barriers to testing that they face," Adams said. "And they're connected by seasonal farm workers who travel between the two areas, possibly bringing the coronavirus with them."

In each of the two locations, the project will conduct a 200-person randomized trial in the spring of 2021 that compares two approaches to home-based COVID-19 testing, Adams explained. In the "active" approach, local health educators who are trusted community members will deliver tests to study participants and provide assistance. In the "passive" approach, participants will instead receive test kits by mail or at a pick-up location. All participants will receive culturally adapted printed and video instructions, as well as a survey on their current symptoms and medical conditions.

"It's our hypothesis that home-based testing will be more efficient, have a greater impact, and be better accepted using the active delivery of test kits by trusted community members," Adams said.

Currently the research team is waiting to see if tests suitable for home use, with results immediately available to the participant, will receive U.S. Food and Drug Administration approval and be commercially available in time for the study. If not, home-based sampling will be analyzed in an alternative way.

The project's clinical partners in Washington, led by physician **Allison Lambert** of Providence Medical Group in Spokane, will consult with participants about test results. Those who test positive for COVID-19 will be referred to local public health agencies for contact tracing and clinical follow-up.

Prior to the testing trial, interviews and focus groups in each study community will explore individuals' knowledge of COVID-19 and preventive measures; beliefs about testing; and cultural factors that affect their testing decisions. These data will help study leaders determine the cultural, social, behavioral, and economic barriers to testing that exist in those communities, Adams said.

(See "COVID-19 Testing" continued on p. 12)

RESEARCH

SIMONDS RECEIVES NEARLY \$1 MILLION FOR CROW WATER PROJECT

By Anne Cantrell, MSU News Service

CAIRHE investigator **Vanessa Simonds**, Sc.D., and her collaborators have received a grant worth nearly \$1 million to create a program for Apsáalooke youth that they hope will ultimately spark interest in STEM fields and lead to cleaner water for the Apsáalooke Nation in southeast Montana.

Simonds, associate professor in the Department of Health and Human Development and a former CAIRHE project leader (2014-19), received the \$999,417 grant from the National Science Foundation through its Advancing Informal STEM Learning program. Simonds and her collaborators will use the funds to create and implement a summer program for Apsáalooke, or Crow, youth in the fifth and sixth grades, as well as a mentorship program for Indigenous high school students and tribal college students.

Work will begin in earnest once the threat of COVID-19 has passed.

Simonds's collaborators include Little Big Horn College, Crow Agency Public School, the Crow Environmental Health Steering Committee, and the advisory board of Guardians of the Living Water, a summer camp and after-school program at Crow that Simonds started as part of her CAIRHE project.

"I'm grateful for this funding and excited to work with youth," said Simonds, who is an enrolled member of the Crow Tribe. "And working with youth is a way to reach families."

Christine Martin, a collaborator on the project and Crow Climate Change Adaptation project coordinator at Little Big Horn College, has worked on similar projects with Simonds for about five years. She said the program is a direct result of a request from the community. It uses a community-based participatory research framework—or research done in partnership with the community.

"Partnering with the community at the very beginning, when we were figuring all of this out, was really important," Martin said.

As part of the program, high school and tribal college students will participate in a four-week internship in which they learn about conducting water research and facilitating science activities. The students will then partner with Apsáalooke elders and science professionals to implement a two-week summer program for fifth- and sixth-grade youth.

During that two-week program, the youth will study water and participate in a number of water-related activities, Simonds said. They will develop research questions about water quality on the reservation and test water at culturally important sites. Students will then compile their data, complete a research poster, and share their findings at a celebration with their families.

"The big piece that is really exciting to kids is testing their water," Simonds said.

Simonds expects a total of 75 fifth- and sixth-grade students will participate in the program over the course of the grant. In addition, 15 high school students and 15 tribal college students will participate. Simonds said that five elders and five STEM professionals will

also participate. Over the course of the project period, she expects the program will also reach hundreds of family members and community members.

Importantly, Apsáalooke perspectives and cultural practices will be integrated into the program. To develop this piece, the project team will conduct interviews with elders and Apsáalooke community members in scientific fields to determine the desired features of the program.

"We really want to integrate Indigenous knowledge with Western science," Simonds said.

The NSF-funded program builds upon a similar project Simonds piloted at Crow soon after she came to MSU in 2014. With funding from CAIRHE, Simonds and her collaborators at Crow launched a summer camp in 2015 focused on water issues for mid-



Vanessa Simonds talks over research findings with students at the Guardians of the Living Water summer camp.

dle school students. The project received ongoing funding from CAIRHE and continued for five years.

Simonds said there is a real need for a program of this sort.

"The Apsáalooke nation in Montana, as well as other Indigenous communities across the country, disproportionately experience negative consequences from water-related environmental hazards, such as contaminated water," she said. "Fifth- and sixth-grade Apsáalooke youth will act as change agents through investigating water issues in their communities and presenting findings to their communities."

Ultimately, Simonds hopes the project will increase participants' interests in careers in science, technology, engineering, and math. She also hopes it will increase their knowledge and understanding of science and water issues. In addition, the research team will study how youth participation in the program affects their families' and community members' water-related knowledge.

Martin hopes the project will strengthen relationships with children and their families at Crow. She emphasized that the work is being done because of those families.

"This is for the Crow community," she said. "What we're doing is for them. We always have them in mind." 🌱

RESEARCH

JOHN-HENDERSON EXAMINES HOW SENSE OF BELONGING AFFECTS HEALTH

By Susan Higgins, CAIRHE

What does it mean to *belong*, and what does belonging mean for our health?

Neha John-Henderson, Ph.D., assistant professor in the Department of Psychology and a former CAIRHE project leader, studies these questions in depth for populations that have been subject to intergenerational trauma for hundreds of years. As other researchers explore how stress and trauma can increase the incidence of chronic disease, John-Henderson flips that idea to explore instead how resilience and belonging can lessen the impacts of trauma and chronic disease.

This cutting-edge approach examines the behavioral pathways through which belonging and connectedness might promote resilience and health.

When John-Henderson was earning her bachelor's degree at UC-Berkeley, her dream was to go on to medical school; but one sociology class on poverty and health sparked a new interest.

"This class inspired a desire to contribute to our understanding of the psychological implications of poverty," she said.

She went on to earn a doctorate in psychology at Berkeley and has since taken a leadership role in the study of pathways to resilience for at-risk populations. In her most recent research, John-Henderson found that for American Indian adults residing on the Blackfeet Reservation, a sense of belonging and connections to traditional ways appear to reduce the physiological consequences of trauma.

"This is what drives my research—finding pathways or factors that may offset traditionally accepted relationships between stress, adversity, and health," she said.

John-Henderson first began exploring this question in 2016 through work funded by MSU's [American Indian/Alaska Native Clinical and Translational Research Program](#) (CTRP). Her origi-

nal work was also supported through an NIH Native American Research Centers for Health (NARCH) grant awarded to her collaborators at Blackfeet Community College (BCC). She was the first psychologist on this [biomedical study with BCC](#) correlating stress and inflammation biomarkers. The study was designed by BCC student interns (*photo below*) and faculty supervisors, including BCC's **Betty Henderson-Matthews** and **Agnieszka Rynda-Apple**, Ph.D., assistant professor in MSU's Department of Microbiology and Immunology.

The research team hypothesized that reinforcing connections to positive resilience factors that had been declining over generations, such as language and cultural practices, could offset negative health impacts, particularly for at-risk individuals. The data supported this hypothesis and showed that individuals who experienced high levels of trauma early in childhood benefited the most from greater connectedness to the culture and traditions of the Blackfeet people.

Specifically, these individuals had significantly lower levels of immune system inflammation—and thus lower risk for chronic diseases—compared to individuals who experienced similarly high levels of trauma but reported low levels of connectedness to the Blackfeet culture.

After completing her initial investigations, John-Henderson continued her work as a [pilot project investigator with CAIRHE](#) (2017–19)—this time examining factors such as trauma, daily stress, sleep, and blood pressure among American Indian adults. She continues to mentor BCC students through support from [Montana INBRE](#).

In March of this year, John-Henderson submitted her first R01 grant application to the NIH's National Institute on Minority Health and Health Disparities. Though the proposal, titled *Social Connectedness and Health in American Indians: An Investigation of Biopsychosocial Mediators*, was scored but not funded, the process was encouraging, she said. She currently has plans to submit a new R01 application in early 2021.

John-Henderson's other studies continue to dig deeper to find health interventions. One such study measured connections among sleep quality, stress, and sense of



Neha John-Henderson

Photo by Kelly Gorham



Blackfeet Community College undergraduate students (in 2018) investigating stress and disease susceptibility on the Blackfeet Reservation: (from left) Megan Gordon, Sequoia Reevis, Wil Horn, Scott Ollinger, Jerry Racine, Davida Grant, Aidan Higgins. (Not pictured) Jolynn Running Wolf.

(See "John-Henderson" continued on p. 12)

RESEARCH

RESEARCH HIGHLIGHTS

Here's a summary of what CAIRHE's project leaders have been working on, even amid the disruption of COVID-19.

Monica Skewes, Ph.D. ([Development and Pilot Test of Indigenist Relapse Prevention for American Indians](#)), has continued to maintain strong communication with her community partners on the Fort Peck Reservation, although research plans for the year have had to shift due to the risks posed by COVID-19. In August Skewes submitted an R01 application to NIH's National Institute on Drug Abuse to continue research on substance use disorder resilience and recovery at Fort Peck. She received an excellent score in early November, with news of any award still pending.

Along with graduate student **Julie Gameon**, Skewes has begun interviews by Zoom with Fort Peck community members about their experiences with grief and loss. They will use the data to adapt a measure of complicated grief to better reflect Native perspectives. They are also conducting a Web-based survey to get feedback on the questionnaire items, with the ultimate aim of using this measure to predict substance use relapse and other health outcomes among Native populations.

Skewes is continuing her work with **Elizabeth Rink**, Ph.D., and **Adriann Ricker** on their project supported by the Robert Wood Johnson Foundation's Interdisciplinary Research Leaders program (see *Fall 2019 Newsletter*). In separate work, Skewes is collaborating with **Stacy Rasmus**, Ph.D., of the University of Alaska Fairbanks to develop a measure of protective factors and strengths that support recovery from opioid use disorder among Coast Salish tribal members in Washington State.

Carmen Byker Shanks, Ph.D., RDN ([The UnProcessed Pantry Project \[UP3\]](#)), has continued to meet regularly with her Community Advisory Board, even as her partners at two rural food banks face heightened food insecurity and increased need for services among their communities during the COVID-19 pandemic. The Byker Shanks team has had to pivot its research plan during the year, with new approaches including the development of an online UP3 component featuring videos. The team is also working with a graphic designer and medical literacy writer to develop a toolkit.

Byker Shanks continues to identify and apply to grant mechanisms that will support her long-term research. In the past several months alone she has published seven papers. Among them is an editorial with three co-authors titled "The COVID-19 Pandemic: A Watershed Moment to Strengthen Food Security Across the U.S. Food System"—published in the *American Journal of Public Health* in August.

Andreas Thorsen, Ph.D., and co-investigator **Maggie Thorsen**, Ph.D. ([Modeling Rural Perinatal Health Outcomes and Service Systems to Improve Health Equity](#)), recently submitted a manuscript—to both a journal and a national conference—on disparities in access to obstetric services for American Indians across Montana. Two other manuscripts are currently under review, including one on facility location modeling that they intend to use in their future applied work. Meanwhile, they are drafting two more manuscripts: one on factors associated with mothers bypassing their local hospitals, and a second on the impact of upgrading neonatal level of care at hospitals on access in Montana. They are working toward

the submission of an R01 application to the National Institutes of Health in 2021. Earlier this year, Thorsen and Thorsen expanded their research team by initiating a research collaboration with **Janelle Palacios**, RN, CNM, Ph.D., a certified nurse midwife.

Kelly Knight, Ph.D., and co-investigator **Colter Ellis**, Ph.D. ([Somatic Mindfulness Training for a Healthy Workforce](#)), are currently analyzing data, writing manuscripts, and preparing for major grant writing in the coming year. Meanwhile, they continue to consult and conduct trainings with the City of Bozeman Attorney's Office related to their research in secondary trauma. They also serve as stakeholder members of the \$3 million Vicarious Trauma Response Initiative (VTRI), a program of the U.S. Department of Justice's Office for Victims of Crime. In addition, Ellis serves as a training and technical assistance coordinator for VTRI.

Knight and Ellis are also part of the research team of a large study funded by the National Science Foundation and led by **Craig Ogilvie**, Ph.D., MSU Associate Vice President of Research and Dean of the Graduate School. The study asked more than 4,000 graduate students at 11 institutions across the country about their experiences with the COVID-19 pandemic, making it one of the most comprehensive surveys of graduate-student experiences of COVID-19 to date. It was the subject of a [recent article](#) in *The Chronicle of Higher Education*.

Lauren Davis, Ed.D. ([A Trauma-Informed Approach for Positive Youth Development for Montana Students](#)), met with her Community Advisory Board in October to review results from the first year of her project, as well as plan for Year 2 and the dissemination of results to the community at large. She has begun work to build a research team for a possible multi-modality intervention in a third year of research, while also recently completing two manuscripts for submission. She will present results on her research to date at an international conference in January, subject to COVID-19 travel restrictions.

Scott Monfort, Ph.D. ([Modeling of Knee Joint Forces to Understand Osteoarthritis in Agricultural Workers](#)), and his team are currently analyzing activity monitoring data, collected from farmers and ranchers during the first year of the project, to understand how movement intensity changes throughout the year in these populations. He hopes to have a student present an abstract on this work at a regional biomechanics conference next spring. Meanwhile, the project is moving forward in its second year, including plans for a virtual Community Advisory Board meeting soon and the start of new participant recruitment. This year the project will focus on developing the ability to use personalized musculoskeletal models to better estimate the joint loading of agricultural workers, with the goal of better understanding osteoarthritis among agricultural communities.

In November Monfort was awarded an R03 grant from the NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development for a project titled *Establishing Cognitive-Motor Function as a Missing Therapeutic Target After Anterior Cruciate Ligament Reconstruction*. 🌿

RESEARCH

TOMAYKO RECEIVES GRANTS IN SUPPORT OF FOUR-DAY SCHOOL WEEK RESEARCH

Emily Tomayko, Ph.D., R.D., assistant research professor at CAIRHE, recently received two important grants in support of her research exploring the effects of four-day school weeks on children and families.

First is an R21 grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, an arm of the National Institutes of Health. That award, granted in mid-September for a two-year period, totals \$275,000.

Tomayko's project, titled *Evaluating the Effects of Four-Day School Weeks on Child and Family Health, Well-Being, and Socioeconomic Factors*, will convene an interdisciplinary team of experts in public health, economics, and Cooperative Extension to generate some of the first evidence of four-day school week impacts on child and family outcomes.



Emily Tomayko

Use of the four-day school week as a potential cost-saving strategy has increased substantially in the United States over the last two decades, Tomayko said, despite a significant lack of data on how this strategy impacts child and family health and well-being. Losing one day of school each week diminishes exposure to school-day physical activities, school meal programs, academic instruction, and other support services, which may affect child health behaviors, socioemotional development, mental health, risk behaviors, and educational attainment, she explained.

"While the recent increase in four-day school week use appears to be driven by financial factors, we may see more schools consider this approach as they contemplate how to offer educational services during the pandemic and after it," Tomayko said. "This situation generates additional urgency to better understand the impacts of limiting exposure to the school environment through use of a four-day school week."

Because Tomayko developed the project while at Oregon State University, it will largely focus on schools in Oregon, which has the fourth highest density of four-day school week districts. Additional analyses will focus on national juvenile crime and food security associated with this schedule. Her co-PI on the grant is **Paul Thompson**, Ph.D., associate professor of economics at Oregon State.

Their central hypothesis is that child and family health and well-being will be negatively impacted by a four-day school week compared to five days due to reduced exposure to academic instruction and other school-based support services, Tomayko said. Their long-term goal is to understand how the school environment impacts child and family health and well-being. That could provide policymakers with much-needed evidence for how school policy actions may impact child outcomes.

A second award from the Spencer Foundation totaling \$375,000, received in November, will support the same line of research and will expand to include a focus on Montana schools. That two-year project, titled *Effects of Four-Day School Weeks on Student Achievement and Child and Family Well-Being*, has Thompson as the PI and Tomayko as co-PI.

Although not specifically a rural policy, the vast majority of four-day school week districts in Montana and nationally are in rural areas, where there are known disparities in health and education.

"We intend to explore how this educational policy may relate to health and educational equity, particularly for children in rural schools," Tomayko said. "The ultimate goal is to provide better information to decision-makers, who are challenged to make decisions in the face of financial and other pressures."

OOSTERHOFF AND PALMER STUDY TEENAGE BEHAVIOR DURING PANDEMIC

By Carol Schmidt, MSU News Service

A study by two CAIRHE investigators published in a *Journal of the American Medical Association* publication found that teenagers' attachment to their communities as well as their beliefs about the coronavirus are key factors in predicting how adolescents respond to the COVID-19 pandemic.

In a study of 770 U.S. teens queried during the early weeks of the pandemic, **Benjamin Oosterhoff**, Ph.D., and **Cara Palmer**, Ph.D., assistant professors in the Department of Psychology, found that adolescents' beliefs about the severity of COVID-19 and the extent to which they value helping others are connected with how they are responding to the pandemic. The more attached adolescents are to their communities—through feelings of social responsibility and trust in others—the more they respond with healthy behaviors, such as social distancing and disinfecting. The researchers said these findings have implications for how parents, teachers, and policymakers may improve behavioral health practices among young people and suggest that cultivating stronger social responsibility and social trust might play a key factor in curbing the spread of COVID-19.



Benjamin Oosterhoff

Oosterhoff and Palmer's findings were published in the June 29 issue of *JAMA Pediatrics*. Each is the recipient of a CAIRHE Project Development Mini-Grant for 2020, and Palmer recently was awarded a CAIRHE Pilot Project grant for 2020-21 (see page 9).

The psychologists said findings from [their article](#), titled "Attitudes and Psychological Factors Associated with News Monitoring, Social Distancing, Disinfecting, and Hoarding Behaviors Among U.S. Adolescents During the Coronavirus Disease 2019 Pandemic," may be helpful in finding effective interventions to improve how teenagers adhere to public health guidance.

"The bigger picture here is the importance that community attachments play in the way adolescents respond to large-scale negative events," Oosterhoff said. "If we want to prepare for this and respond in a better way—if we want fewer people to die—we need to start taking community attachments more seriously all of the time and cultivate social trust and responsibility (in teen populations)."

(See "Oosterhoff and Palmer" continued on p. 12)

CENTER NEWS

NEW REPORT OUTLINES HOW CLIMATE CHANGE IMPACTS HEALTH IN MT

From MSU News Service

Climate change is already affecting the health of Montanans, a situation that will likely worsen in the coming years, according to a new report published by a group of Montana University System scientists and Montana physicians, including CAIRHE personnel.

Climate Change and Human Health in Montana: A Special Report of the Montana Climate Assessment, or *C2H2*, released on December 8, is a special report of the 2017 *Montana Climate Assessment*. *C2H2* was produced by the Montana University System's [Institute on Ecosystems](#), CAIRHE, and [Montana Health Professionals for a Healthy Climate](#), with support from the [Montana Healthcare Foundation](#).

The report brought together researchers, clinicians, public health experts, climate scientists, tribal experts, and community leaders from throughout Montana to focus on ways in which climate change impacts the health of Montanans, both now and in the future, said **Alex Adams**, M.D., Ph.D., director of CAIRHE and lead author of the report.

"In contrast to the [Montana Climate Assessment](#), which focused on agriculture, forests, and water, this report is about people and their health," Adams said. "It builds on the *Montana Climate Assessment* by adding what has been learned from numerous health-related studies, to analyze health impacts of climate change to the people of Montana."

Co-author **Robert Byron**, M.D., MPH, an internist with Montana Health Professionals for a Healthy Climate, said it's easy for the public to think mistakenly that climate change is something occurring to people somewhere else in the world, or sometime in the future.

"*C2H2* presents evidence for ways that climate change is already impacting the health of Montanans, and will increasingly do so in the future," he said.

Byron said the assessment highlights the most likely climate impacts—heat, wildfires, drought, and flood—on physical and mental health, and recommends important steps that communities, health professionals, and individuals can take to lessen those impacts.

Another co-author, **Mari Eggers**, Ph.D., a research assistant professor at MSU and member of the Gallatin City-County Board of Health, added that the *C2H2* assessment presents evidence for a number of health impacts from climate change, and lays out actions that help prepare for and minimize those impacts, with an emphasis on sharing of information and working collaboratively.

Because more than 60% of Montanans live in rural areas, the assessment looks at ways that climate change will affect people living in both urban and rural settings.

"The key messages and recommendations of the report were developed to be useful to people wherever they live in Montana," said MSU professor **Bruce Maxwell**, Ph.D., director of the Montana Institute on Ecosystems

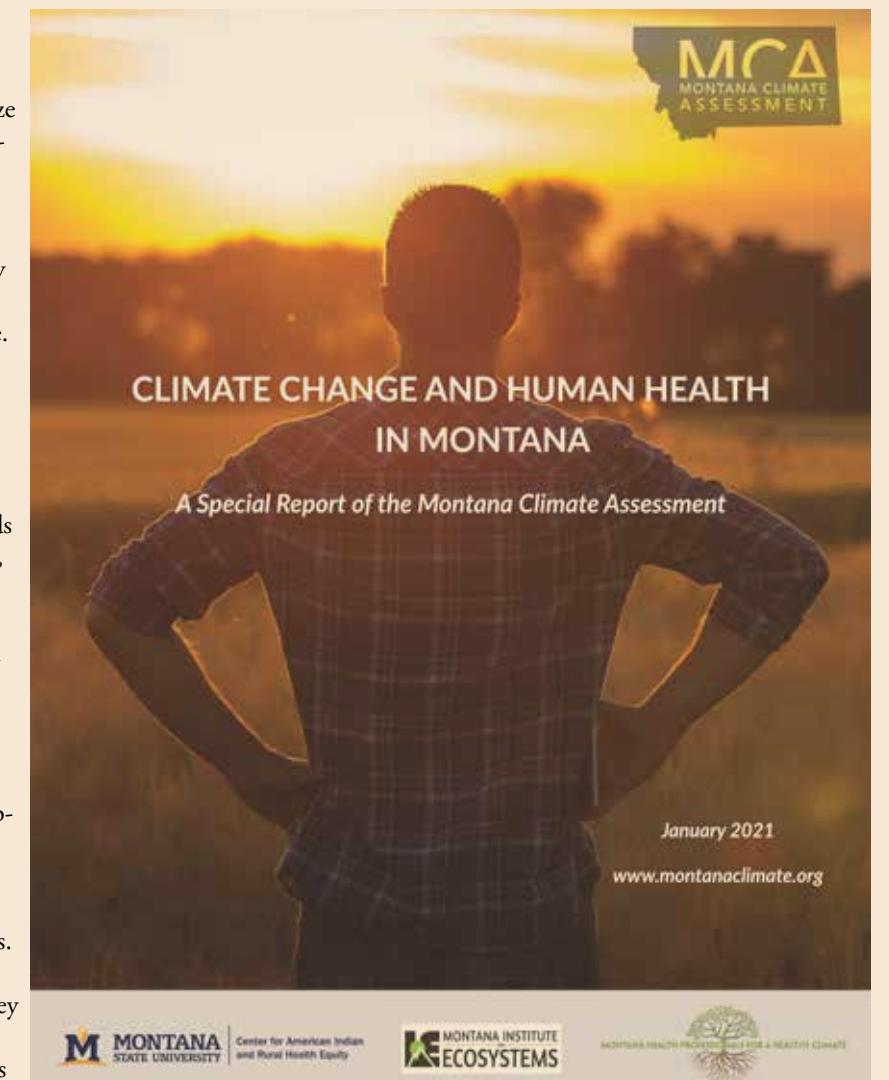
and co-author of the 2017 *Montana Climate Assessment* and the *Climate Change and Human Health* report. "Everyone has a role to play."

Professor **Cathy Whitlock**, Ph.D., lead author of the 2017 *Montana Climate Assessment* and one of the co-authors of this special report, added that the current pandemic has shown that advance planning for health emergencies is essential to reduce the economic impacts of unexpected events. "*C2H2* fills an important gap by providing critical information that can help Montanans prepare for climate surprises ahead," she said.

Mike Durglo, representing the Confederated Salish and Kootenai Tribes, also contributed to the *C2H2* report.

"Climate change is already impacting the health and well-being of our people," Durglo said. "Wildfires have caused hazardous air quality, and extreme weather creates dangerous conditions and limits access to health care and other services. The climate crisis and the ecological changes that it brings threaten traditional customs, including our access to first foods through hunting, fishing, and gathering, and our ability to conduct ceremonies and spiritual practices."

The full *C2H2* report is available at montanaclimate.org.



CENTER NEWS

ADAMS, AHMED PART OF MSU TEAM THAT RECEIVED GRANT FOR COVID-19 WORK

By Reagan Colyer, MSU News Service

An interdepartmental Montana State University research team including **Alex Adams**, M.D., Ph.D., director of CAIRHE, was awarded a \$776,000 grant in October to explore a faster and less expensive method for COVID-19 testing that, when used in conjunction with existing testing methods, could ultimately improve access to and speed of testing across the state.

The team includes 12 faculty members from across MSU and is led by **Connie Chang**, Ph.D., assistant professor in the Department of Chemical and Biological Engineering. Also part of the team is **Selena Ahmed**, Ph.D., director of CAIRHE's [Translational Biomarkers Core](#).

The funding comes from the federal Coronavirus Aid, Relief and Economic Security Act—or CARES Act. The grant was administered by the Montana governor's office and the Office of the Commissioner of Higher Education.



Selena Ahmed

The project focuses on LAMP testing, short for loop-mediated isothermal amplification. The method is an emerging complement that could be used in conjunction with the standard COVID-19 test, called quantitative polymerase chain reaction, or qPCR, the most widely used test in Montana and across the United States, Chang said. Rather than the standard nasal swab, LAMP testing can analyze saliva samples in as little as 30 minutes.

"There's a lot of research exploring LAMP right now because of its speed," Chang said. "With the technology that we're developing, we think we can trim the result time even more. It's an exciting developing technology for point-of-care testing, and that's why a lot of people are working on it right now."

Before LAMP technology can be made available for use, it must be validated to ensure that it is accurate at identifying COVID-19. To do that, the team is partnering with MSU's COVID-19 testing laboratory, which processes 1,500 COVID-19 tests per day in partnership with Montana's Department of Public Health and Human Services. That work has used some equipment on loan from CAIRHE's Translational Biomarkers Core Lab.

In addition to being faster than qPCR testing, LAMP doesn't require specialized training to use, and it could avoid the supply-chain issues posed by the unique materials needed for qPCR tests. That could make the method invaluable to remote tribal and rural communities in Montana, where the need for testing is particularly great, Adams said.

"It might allow health officials in these most remote areas to identify and contain community outbreaks before confirming cases with a subsequent qPCR test," Adams said. "That could save many lives as the pandemic continues into next year."

In partnership with Salish Kootenai College (SKC), CAIRHE's primary contribution to the project began in October and is led by Ahmed and Adams. The joint MSU and SKC team has developed

culturally relevant COVID-19 educational materials for college students and rural and tribal communities (see page 11).

STUDENT LEADERS WIN COMPETITION WITH TURTLE ISLAND TALES PLAN

From MSU News Service

A team of three students representing the recently reestablished student chapter of American Indigenous Business Leaders, or AIBL, at Montana State University recently took first place in a business plan competition at the organization's national conference.

The MSU student team of **Zach Fighter**, **Terrance Limpy**, and **Tiara McGee-Bauer** developed a business plan that focused on creating a sustainable business model for [Turtle Island Tales](#), a research-based monthly shipment subscription program to help children and their families make healthy choices for their bodies, minds, and spirits.

The team began working on the plan in December 2019 and completed it last March. They were planning to compete at the national AIBL conference in early April, but that conference was canceled due to the COVID-19 pandemic. The AIBL organization instead partnered with the United National Indian Tribal Youth, or UNITY, on virtual conference offerings, and that conference was held online July 23.

Turtle Island Tales is a social entrepreneurial venture created by CAIRHE Director **Alex Adams**, M.D., Ph.D., along with a team of researchers and Native advisers. It originated from Adams's NIH-funded research in family nutrition and wellness among Native communities nationwide. Adams and **Eliza Webber**, MPH, research project manager at CAIRHE, reached out to MSU's AIBL chapter for business development support.

Webber said the business plan the students developed benefits

(See "Turtle Island Tales" continued on p. 13)



(Left to right) Tiara McGee-Bauer, Zach Fighter, and Terrance Limpy hosted a fundraiser on the MSU campus last fall for MSU's revived student chapter of the American Indigenous Business Leaders. The three recently placed first at the organization's national business plan competition.

Photo courtesy of AIBL

PEOPLE

CAIRHE WELCOMES NEW PILOT PROJECT LEADERS AND MINI-GRANT AWARDEES

CAIRHE has added three new pilot projects to its funded research for 2020-21, bringing its total number of pilot projects for the year to five.

Funding began September 1 at the start of CAIRHE's seventh year as a center. The new pilot project leaders are **Katey Franklin**, Ph.D., director of the Addiction Counseling Program in the Department of Health and Human Development; **Stephen Martin**, Ph.D., director of CAIRHE's Translational Biomarkers Core Laboratory and assistant research professor; and **Cara Palmer**, Ph.D., assistant professor in the Department of Psychology (also see p. 6).

"CAIRHE is pleased to support these three very promising health equity investigators from three very different fields," said CAIRHE Director **Alex Adams**, M.D., Ph.D. "Their work this year and beyond will be a key part of our growth as a multidisciplinary research center for our state and region."



Katey Franklin

Franklin's project ([Implementing an Internet-Based Cognitive Behavior Therapy Intervention in School Settings](#)) will build on the previous development and evaluation of an adult version of the Internet-based Cognitive Behavior Therapy (CBT) program known as Thrive. The current project will pilot a newly developed youth version of Thrive, a fully automated, standalone program. The new version will deliver CBT skills through educational, real-life adolescent scenarios and tailored feedback videos to address symptoms of depression, anxiety, and co-occurring (addiction) behaviors. **Mark Schure**, Ph.D., assistant professor in the Department of Health and Human Development and a primary investigator on the Thrive projects, will serve as scientific advisor.

Martin, who has participated in research on aging and aging-related diseases since 2008, will examine the long-term effects of coronavirus infection among older adults in Montana ([The Impact of SARS-CoV-2 Infection on Age-Related Chronic Inflammation](#)). First Martin will conduct serological testing and survey data collection to identify sociodemographic characteristics of SARS-CoV-2 infection in adults age 65 or older. Then, using a cross-sectional study design, he will measure circulating inflammatory markers and perform transcriptional profiling of immune cells in older adults who test positive or negative for previous SARS-CoV-2 infection. CAIRHE's [Translational Biomarkers Core Laboratory](#) will conduct all analyses.

Palmer's project ([Socioecological Risk and Protective Factors for Sleep Health Among Montana Youth](#)) will assess and identify modifiable sleep health behaviors relevant for youth in rural Montana, and uncover potential mechanisms for intervention to reduce mental health disparities. Within a community-based participatory research framework, Palmer will investigate sleep health among a cohort of 10- to 17-year-old adolescents in rural Montana using



Stephen Martin

a multi-level (community, family, individual) and mixed-methods approach. Dr. Palmer previously established her community partnerships in Dillon, Mont., as the recipient of a CAIRHE Project Development Mini-Grant in 2020.

In addition, two Center investigators will complete their second and final year of pilot project funding having received NIH approval: **Lauren Davis**, Ed.D. ([A Trauma-Informed Approach for Positive Youth Development for Montana Students](#)), and **Scott Monfort**, Ph.D. ([Modeling of Knee Joint Forces to Understand Osteoarthritis in Agricultural Workers](#)).

The three new pilot projects were submitted as applications in April 2020 in response to CAIRHE's Request for Proposals. Each funded proposal received prior approval from an internal review committee, the CAIRHE External Advisory Committee, and the National Institutes of Health. Pilot project funding is for one year, with the possibility of competitive renewal for an additional year.

For the second year in a row, CAIRHE also has awarded smaller Project Development Mini-Grants to help MSU junior investigators establish partnerships with a community, public health agencies, or clinical organizations.

The Mini-Grants, made possible through funding from the office of **Jason Carter**, Ph.D., MSU vice president of Research, Economic Development, and Graduate Education, are designed to strengthen the pipeline of multidisciplinary investigators who seek research support from the Center.

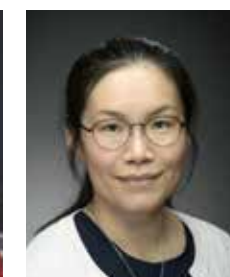
Applications for the latest round of Mini-Grants, in amounts up to \$10,000 each, were due September 30, with three grants awarded in mid-October. The recipients are:

- **Diane Bimczok**, Ph.D., Department of Microbiology and Immunology;
- **Wan-Yuan Kuo**, Ph.D., Department of Health and Human Development and director of the MSU Food Product Development Lab, with co-PI **KayAnn Miller**, director of the MSU Culinary Services Indigenous Foods Initiative; and
- **Miranda Margetts**, Ph.D., Department of Land Resources and Environmental Sciences.

Meanwhile, all four CAIRHE [research projects](#) that were active last year continue this year. Those multiyear studies, funded at higher annual award amounts, are led by **Carmen Byker Shanks**, Ph.D.; **Kelly Knight**, Ph.D., with co-investigator **Colter Ellis**, Ph.D.; **Monica Skewes**, Ph.D.; and **Andreas Thorsen**, Ph.D., with co-investigator **Maggie Thorsen**, Ph.D. (see page 5).



Diane Bimczok



Wan-Yuan Kuo



KayAnn Miller



Miranda Margetts

PEOPLE

EMILY SALOIS, DON WARNE WIN NIHBS OUTSTANDING SERVICE AWARDS

Emily Salois, MSW, community research associate for CAIRHE and Montana INBRE, recently won a prestigious Heroes in Health Award from the National Indian Health Board (NIHB).

Salois was honored in a virtual ceremony on October 14 attended by many of her closest admirers at MSU and across Montana.

The awards honor individuals or organizations whose work has made an impact on American Indian/Alaska Native health care. Sa-



Emily Salois delivers her pre-recorded remarks during the virtual NIHB awards ceremony.

lois was honored in the Area and Regional Impact Awards category, representing the Indian Health Service's Billings Area.

"I dedicate this award and am accepting it on behalf of those who are the real heroes, especially during this dreaded COVID pandemic," Salois said in video remarks aired during the ceremony. "To name a few, there are the dedicated prayer warriors, the health care workers who are on the front lines, the students and parents and teachers who continue to do home-based services while struggling, tribal councils and health board directors who advocate for services and funding for our communities, and the incident command teams who have provided support for our reservations."

Salois closed her remarks with an appeal for continued vigilance against COVID-19 in Indian Country.

"American Indians continue to be overrepresented in health care disparities, and even more so now with COVID," she said. "I urge our people to please pay attention to the signs, please wear your masks, and maintain social distancing. I'm asking the Creator God to bless you, your families, and your communities. I thank you."

In nominating Salois for the award, **Ann Bertagnolli**, Ph.D., program coordinator for Montana INBRE, cited Salois's emphasis on building personal relationships when conducting research with tribes.

"Emily is expert at bringing diverse groups together to form partnerships with the shared goal of improving tribal populations' health," Bertagnolli said. "As a highly respected elder, she is known across our state as someone who's trustworthy and honest and who will travel miles by car, bus, or train in all kinds of weather to offer her help and guidance."

As part of her work on behalf of MSU faculty, Salois helps establish numerous Community Advisory Boards and advises researchers

in their collaborations with tribal college faculty, students, and community members. Instrumental in helping Institutional Review Boards work effectively, she also works to ensure the safety and protection of research data, Bertagnolli said.

"She presents local and regional workshops and webinars on CBPR, helps to develop grants, reviews research proposals, and encourages American Indians to pursue educational opportunities," she added. "The success of our programs in recent years with multiple Native community partners could not have been possible without Emily's tireless efforts."

During the same NIHB ceremony, CAIRHE External Advisory Board Member **Donald Warne**, M.D., MPH, received a National Impact Award. Warne serves as director of the Indians Into Medicine (INMED) and Public Health programs at the University of North Dakota (UND) School of Medicine and Health Sciences, and is also associate dean for Diversity, Equity, and Inclusion.

"In my experience working in medicine and public health, I know that we don't have enough of our own people in these positions, whether it's as health professionals or leaders in health systems," Warne said in his video remarks. He pointed out that UND offers a master's of public health degree with a specialization in Indigenous Health, and this year UND established the first Ph.D. in Indigenous Health. He shared the honor with his UND colleagues.



Don Warne accepts a National Impact Award during the NIHB awards ceremony on Oct. 14.

"It's really been a team effort focused on improving outcomes and opportunities for our people and for the next generation to ensure that we're at the forefront of managing our health systems, conducting our own research in a culturally relevant way, and improving Indigenous health," Warne said. "Thank you so much for this wonderful honor. It means a lot to me, but it also means a lot to our team."

PEOPLE BULLETINS

Jason Carter, Ph.D., MSU vice president of Research, Economic Development, and Graduate Education, has joined CAIRHE as a mentor to pilot project leader **Cara Palmer**, Ph.D., assistant professor in the Department of Psychology.

Carter joined MSU in mid-2019, and this fall MSU announced an [all-time high](#) for total research expenditures in 2019-20, totaling \$167 million. Carter's own current research focuses on the impact

PEOPLE

of sleep deprivation, insomnia, and sleep apnea on blood pressure and the nervous system—a background that makes him ideally suited as a mentor to Palmer, who researches sleep among children, adolescents, and young adults.



Jason Carter

"Dr. Carter has shown tremendous support for CAIRHE and its mission this year," said CAIRHE Director **Alex Adams**, "and this is one more way that the Center will benefit from his knowledge and leadership."

Ron June, Ph.D., associate professor in the Department of Mechanical and Industrial Engineering, has joined CAIRHE as a mentor to the Center's junior faculty. His first assignment will be to work with pilot project leader **Stephen Martin**, Ph.D., director of CAIRHE's Translational Biomarkers Core Lab.

"Ron brings valuable experience to our faculty as a basic scientist with NIH R01 funding," said CAIRHE Director **Alex Adams**. "We're fortunate to have his expertise in helping our faculty move along their research career trajectories."

June's own research is in the area of osteoarthritis, an aging-related disease in which cartilage deteriorates, resulting in painful joints and decreased mobility. His lab's long-term goal is to develop novel treatment strategies that utilize protein transduction and build upon developed knowledge involving chondrocyte mechanotransduction.

"I'm excited to get to work with Steve, an aging researcher who can bring a lot of insight to our own work," June said. "It's fantastic to be a part of CAIRHE."



Ron June

Neha John-Henderson, Ph.D., and **Scott Monfort**, Ph.D., were among 21 faculty recipients of small grants from MSU's Center for Faculty Excellence for 2020-21. The grants, awarded in May, have a maximum award of \$5,000 each with the goal of enabling faculty to engage in activities that will enhance scholarship.



Scott Monfort

John-Henderson applied for funding to help offset the cost of purchasing a Mindware Mobile Impedance Cardiography Unit. Monfort requested funds for travel to visit the University of Pittsburgh to gain expertise in functional near infrared spectroscopy.

Julie Ruff, Ed.D., recipient of a CAIRHE Project Development Mini-Grant for 2020, co-authored the presentation "Art for Wellness: Promoting Well-Being in Indian Reservation—Dwelling Pre-adolescent Children," based on her Mini-Grant work, given at the 46th Annual Conference of the Transcultural Nursing Society. The conference was held virtually on October 21-24. Students on the Fort Peck Reservation who participated in her project took part in a final art show and ceremony on December 10 in Wolf Point.

"The students have grown over the year," Ruff said, "beginning last spring when they were largely disengaged because of the pandemic, to a place where they've learned about Indigenous art and skills. This has included recognizing their own strengths, resilience, importance in the community, connection to their heritage through art, and mechanisms to help calm, self-soothe, and center themselves when experiencing stress." 🌿



Julie Ruff

ANNOUNCEMENT: CAIRHE REQUESTS PROPOSALS FOR PILOT PROJECTS

CAIRHE has issued its annual Request for Proposals for one-year pilot projects from MSU faculty engaged in public health research. Proposals should be consistent with CAIRHE's mission of reducing health disparities in Native and/or rural communities, and they should have a high likelihood of leading to independent funding from external (non-MSU) sponsors.

Funding usually ranges from \$20,000 to \$50,000 in direct costs for the project year, beginning September 1, 2021. The deadline for a required letter of intent is **February 1, 2021**, with an application deadline of **April 1**.

"CAIRHE is a multidisciplinary center, so we're again reaching out to faculty in departments across campus," said **James Burroughs**, CAIRHE program coordinator. "We're hoping for a lot of interest from new applicants this year."

In addition to funding from the National Institutes of Health, being a CAIRHE project leader offers faculty a range of support services from the Center and the collaboration of a community of scholars who share similar research interests.

For complete details and instructions, visit <https://www.montana.edu/cairhe/rfp/index.html>.



As one part of a state grant to MSU this fall (see page 8), CAIRHE and partners at Salish Kootenai College developed culturally relevant COVID-19 educational materials, including this poster, for college students and rural and tribal communities. More examples are found on [CAIRHE's home page](#).

THE LAST WORD

("COVID-19 Testing" continued from p. 2)

"Using this information, we can develop the educational materials that will accompany the test kits so that they're culturally appropriate and most effective for each community," she added.

Following the trial, the joint study team will evaluate the acceptability and feasibility of the home-based testing approaches through participant surveys. That information will allow CAIRHE and its partners to create testing protocols that could significantly increase home-based testing among Native and Latino communities nationwide, Adams said.

"At the end of the day, our goal is to decrease the devastating impact of COVID-19 in these vulnerable rural areas," she said.

The CAIRHE-led study, titled *Protecting Our Community: A Pragmatic Randomized Trial of Home-Based COVID Testing with American Indian and Latino Communities*, is funded by the Office of the Director of the NIH and administered by the National Institute of General Medical Sciences, which provides CAIRHE's Centers of Biomedical Research Excellence, or COBRE, grant. In 2019 CAIRHE received a [competitive renewal of its COBRE grant](#) totaling \$10.7 million through 2024. 🌱

("John-Henderson" continued from p. 4)

belonging in American Indian college students. Sense of belonging to the college community and level of stress, she found, are two factors that shape the quality of sleep, particularly for students.

Another project is focused on growth health mindsets that are characterized by the view that health is not fixed and can be affected by behavior. In her previous work, she found that the degree of historical trauma in Blackfoot adults was a strong predictor of mindsets about health. Specifically, the more historical trauma adults reported, the more they believed that health cannot be modified by behavior.

Separately, she found that in American Indian college students, having a growth mindset about health is associated with more physical activity, which contributes to a lower body mass index for these students. The implication is that interventions promoting growth health mindsets may help reduce the risk of chronic diseases for American Indians and other at-risk populations. Based on this work, she is piloting an intervention with the Blackfoot community to promote growth health mindsets to improve health.

John-Henderson's [Stress, Adversity, Resilience and Health \(SAR-AH\) Lab](#) at MSU is the center of these studies that explore how psychosocial experiences in vulnerable populations affect health and disease. Her team measures markers of immune system inflammation and reactivity (including heart rate, blood pressure, and cortisol) in response to psychological stress, sleep, physical activity, and patterns of social interactions and daily life stressors. These measurements are coupled with surveys collecting information about demographics and early life environments to better understand the pathways through which these experiences and environments may later affect health and risk for disease.

In building her research, John-Henderson is quick to tell you that her work hinges first on building trusting relationships in Native communities. She emphasizes the importance of leaving behind assumptions—and listening.

"My previous knowledge doesn't mean anything," she said. "I have to remember that the research design and approach may look very different from what I've used previously. The questions I want to ask must absolutely take the back seat to let the community drive the work. Otherwise the work would be meaningless."

Going forward, John-Henderson would like to learn more about intergenerational relationships in Native communities and the potential impacts of elders' wisdom on community health.

John-Henderson's parents immigrated to the United States from India. Her interests in poverty and health and resilience were largely informed by her travels to India throughout her childhood. While she was born and raised in California, she feels very lucky to have landed in Bozeman along with her husband, two sons, and dog.

"I appreciate the endless beauty of Montana," she said. "There is never a shortage of places to explore." 🌱

("Oosterhoff and Palmer" continued from p. 6)

While science and research are often slow processes, several factors allowed the two psychologists to launch and complete their research rapidly, then publish it in the prestigious *JAMA* journal.

"We were able to get the study up and running right away and launched it one week after COVID was declared a national emergency," Oosterhoff said. "Warning signs of the severity of the virus were present weeks before the declaration, which provided added time to prepare. It was a perfect storm of our past experiences and thinking, as well as new methods we had developed in our lab, that allowed us to turn it around so quickly."

It helped that Oosterhoff and Palmer are married, so they were able to collaborate 10 to 12 hours a day during the quarantine to observe, plan, and launch the study. They have worked together on other similar projects, including a study that they conducted when they were working in Houston when Hurricane Harvey hit in 2017.

"We both had previous studies about how a terrible event can impact teens and how that carries with them in their life," Oosterhoff said. "We felt like something similar was happening again with COVID."

Coincidentally, for the past year Oosterhoff and Palmer had worked to develop research tools that use social media to collect data from their target population. The couple previously found success buying relatively low-cost ads seeking participants on Instagram. Oosterhoff said that technique proved effective for their COVID survey, especially since schools were closing and eliminating a common route of interviewing students in a classroom.

For two days starting March 20, the researchers surveyed 770 adolescents, ages 13 to 18, from every state in the country.

"One thing we need to do as scientists is stay on it and put our findings in a broader context, even beyond what it means to respond to COVID-19," Oosterhoff said. "In the process we learned valuable information about how to respond to disasters like this again."

Oosterhoff said after they had preliminary results, he and Palmer reached out to *JAMA Pediatrics* to see if they would consider COVID-19 research. The editors responded within 30 minutes that they were interested and expedited peer review for the research, given the fast progression of the pandemic.

THE LAST WORD

("Turtle Island Tales" continued from p. 8)

Turtle Island Tales by providing the venture with an instructional guide for successfully growing the social enterprise.

"The plan identified unmet needs and potential challenges that may have otherwise been overlooked," she said.

For example, Webber noted that by working with AIBL, she and Adams were able to fine-tune their target audience and develop appropriate marketing language tailored to their target groups. She added that the student team was also a "tremendous help" in determining their program costs and developing financial projections.

The cost estimates the students provided through the business plan have also been helpful in planning implementation of the Turtle Island Tales program with Extension partners in Montana and South Dakota. Partners in both states are currently determining if they can pilot the program in one of their tribal communities, Adams said.

In a related development, in May Turtle Island Tales won third place and a \$4,000 prize in Montana State University's inaugural [\\$50K Venture Competition](#). During the competition, Adams pitched Turtle Island Tales to a panel of three judges. The 14 finalists who participated in the competition were selected from among 29 entries submitted by MSU students, faculty, staff, and alumni.

"The work of our AIBL student partners certainly contributed to Turtle Island Tales' success in the competition," Adams said. 🌱



Oosterhoff credited CAIRHE with support and guidance.

"I was excited by their project idea and let them reallocate funds from their CAIRHE-supported project, which allowed them to quickly pivot their work and get the survey out early," said **Alex Adams, M.D., Ph.D.**, director of CAIRHE.

And while the publication of their work in a major journal was rewarding, Oosterhoff and Palmer's most significant collaboration came just a week after publication. That was when their first child, a daughter, was born.

Oosterhoff and Palmer have recently published other work from this study about what motivates teens to engage in social distancing, and how these motivations to social distance relate to mental health and feelings of social connectedness. This was [recently published](#) in the *Journal of Adolescent Health*. They are continuing their research by following this same group of teenagers as the pandemic has progressed—tracking how ongoing stressors related to the pandemic may contribute to changes in health behaviors and mental health over time.

For instance, Oosterhoff speculates that adolescents, who generally are socially active, will find it harder to engage in healthy practices such as social distancing as the pandemic becomes more drawn out. And he would like to test his theory that youth who are committed to giving back and volunteering—those who have a strong commitment to their communities—will be the ones who have continued to take the pandemic seriously and behave in constructive ways, such as socially distancing and wearing masks.

"There's a lot more to study, but this is a good start that we hope to build upon," he said. 🌱

Center for American Indian and Rural Health Equity (CAIRHE)

Health Sciences Building
P.O. Box 173485
Montana State University
Bozeman, MT 59717-3485
Web: www.montana.edu/cairhe



ADMINISTRATION

Alexandra Adams, M.D., Ph.D., *Director and Principal Investigator*
James Burroughs, *Program Coordinator*
Tel: (406) 994-4407; E-mail: jburroughs@montana.edu
Maya Bronston, *Grants Management Specialist*
Erik Adams, M.D., Ph.D., *Director, Health Education and Research Bus (HERB)*
Selena Ahmed, Ph.D., *Director, Translational Biomarkers Core*
Nicole Carnegie, Ph.D., *Statistical Consultant*
Lori Lindgren, *Staff Assistant*
Stephen Martin, Ph.D., *Director, Translational Biomarkers Core Laboratory*
Eliza Webber, MPH, *Research Project Manager*

CAIRHE PROJECT LEADERS

Carmen Byker Shanks, Ph.D., RDN, *Dept. of Health and Human Development*
Lauren Davis, Ed.D., *Department of Education*
Colter Ellis, Ph.D., *Department of Sociology and Anthropology*
Katey Franklin, Ph.D., *Department of Health and Human Development*
Vernon Grant, Ph.D., *Center for American Indian and Rural Health Equity*
Kelly Knight, Ph.D., *Department of Sociology and Anthropology*
Stephen Martin, Ph.D., *Center for American Indian and Rural Health Equity*
Scott Monfort, Ph.D., *Department of Mechanical and Industrial Engineering*

Cara Palmer, Ph.D., *Department of Psychology*
Monica Skewes, Ph.D., *Department of Psychology*
Andreas Thorsen, Ph.D., *Jake Jabs College of Business and Entrepreneurship*
Maggie Thorsen, Ph.D., *Department of Sociology and Anthropology*
Emily Tomayko, Ph.D., R.D., *Center for American Indian and Rural Health Equity*

CAIRHE MENTORS

Jason Carter, Ph.D., *Vice President of Research, Econ. Develop., & Grad. Educ.*
Suzanne Held, Ph.D., *Department of Health and Human Development*
Ron June, Ph.D., *Department of Mechanical and Industrial Engineering*
Elizabeth Rink, Ph.D., MSW, *Department of Health and Human Development*
Sarah Shannon, Ph.D., RN, FAAN, *Dean, College of Nursing*

COMMUNITY RESEARCH ASSOCIATES

Emily Matt Salois, MSW
Susan Higgins, M.S.

EXTERNAL ADVISORY COMMITTEE

Dennis Donovan, Ph.D., *Professor Emeritus, University of Washington*
Donald Warne, M.D., MPH, *University of North Dakota*
Jack Westfall, M.D., MPH, *Robert Graham Center*

Research reported in this publication is supported by a Centers of Biomedical Research Excellence (COBRE) award from the National Institute of General Medical Sciences of the National Institutes of Health, award number P20GM104417. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Writer, Editor, Layout: James Burroughs; Design: Kristen Drumheller, MSU

Copyright © 2020 by the Center for American Indian and Rural Health Equity