



# CAIRHE

CENTER FOR AMERICAN INDIAN AND RURAL HEALTH EQUITY



## EMBRACING THE POWER OF STORY IN SCIENCE

When my kids were little, I made up stories for them at bedtime. Often these were sequential stories so that they looked forward to hearing what would happen next, and most of the characters were animals having adventures or getting lost and finding home. Once my husband, Erik, even used my story of a baby moose to calm down one of his pediatric patients during a procedure in the ER. I find myself returning to story now both in my team's research dissemination work with children and families, [Turtle Island Tales](#), as well as in my speaking.

Last November, I decided that I needed to learn how to better engage audiences online. I was feeling really adrift without that visual connection to audience. With some coaching, I began to tell my stories in my presentations. Having set this intention, I've been invited to give eight presentations for local, regional, and national audiences—ranging from laypeople to health professionals—in the past five months. While it's been a lot of work and a stretch out of my comfort zone, I've learned a lot about communicating with diverse audiences in a new, more impactful way.

Given that so much science communication we're producing is falling on deaf or politicized ears these days, I believe we need to learn how to use story to really engage and impact our listeners. At first, I found this revealing of self in my stories to be strange and difficult. Used to the comforts of PowerPoint and data, I found it hard to begin simply with a story, and it felt too open and unscientific. But after trying this in different ways and with different stories—such as why I'm engaged in

climate change work, experiences with my own mentors, and why I do what I do—it's felt really important to be real, to be myself, and to truly connect with all those faceless listeners on the webinars.

In telling my stories, I have carefully thought beforehand about what would resonate most with my listeners and what would help them stay engaged with the topic. My longest talk, a national keynote for health and extension professionals, was nearly an hour, and fortunately I had a lot of practice with my storytelling before this one. I began with my story about why I started working with Native communities, and then I added a menu of what they should be listening for during the talk. I ended with how their story would help them reinvigorate, reimagine, and continue to support their communities. I've also learned the technique of starting with *me*, moving to *we*, and ending with *you*. I find this to be a really excellent way to think about engaging my audience.

We build and share CAIRHE's stories through our good work, our writing, and our community engagement and public outreach. As you contribute to our center's mission, or that of your own organizations, I encourage you to tell your own stories as individuals, as parents, and as scientists. It can make your work, and ours, come alive and resonate in ways we have just begun to imagine. You have a story to tell, and the world needs to hear it!

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

**For Healthy Communities Under the Big Sky**

## RESEARCH

## SKEWES WINS \$3.2 MILLION GRANT TO TEST SUBSTANCE USE INTERVENTION

From MSU News Service

After more than a decade spent studying addictive behaviors, psychologist **Monica Skewes** thought she had seen the complete spectrum of human addiction.

But even with her extensive experience investigating smoking, drinking, and other addictions, Skewes was surprised when she arrived in Montana in 2014 to find many people in one American Indian community living in recovery against all odds. People healing from methamphetamine addiction, for example, lived among current users and somehow managed to stay drug-free.

“I couldn’t even conceive how they could do that,” said Skewes, Ph.D., associate professor in Montana State University’s Department of Psychology and a principal investigator for CAIRHE. “There’s a resilience and strength that people have there, and ever since then I’ve been trying to understand what those strengths are and how they can help community members toward recovery.”

Although American Indians have one of the highest rates of abstinence from alcohol and drugs among any population, Native communities also experience serious health disparities associated with alcohol and drug use disorders, often a result of intergenerational and historical trauma, Skewes said.



Monica Skewes

Effective treatments are critically needed in these communities, she explained, but few evidence-based interventions have been developed or tested with American Indians and grounded in local culture. Even fewer take advantage of the communal strengths that Skewes and her community partners observe daily.

In March Skewes received a five-year, \$3.2 million grant from the National Institute on Drug Abuse, part of the National Institutes of Health, to test one such treatment—a unique approach to recovery that she and her research team have developed over years of preliminary studies.

By increasing access to effective localized treatment, this latest research could improve health and decrease disparities related to substance use disorders among underserved Native communities in Montana and nationwide, she said.

“While there are many risk factors that drive substance use on reservations, like high rates of poverty and easy access to alcohol, there are also unique strengths that we believe help people recover,” Skewes said.

Two examples she cited are strong cultural leaders engaged in language and cultural revitalization, as well as community members in long-term recovery who are committed to serving their people and helping others.

“Our intervention aims to connect tribal members with existing resources in the community and increase their access to a healthy social support network,” Skewes added.

The new study, called *Randomized Controlled Trial of Indigenous Recovery Planning for American Indians*, uses a community-based participatory research framework, or CBPR, to test the intervention that was designed collaboratively with community partners from the Fort Peck Indian Reservation in northeastern Montana. The grant includes a large subaward to Fort Peck Community College in Poplar for work carried out on the reservation.

Known as Indigenous Recovery Planning, or IRP, the intervention employs trained Fort Peck community members to deliver content that has been adapted to the local culture from Relapse Prevention, one of the most studied and effective treatments for substance use disorders, Skewes said.

“While Relapse Prevention is an effective treatment for substance use disorders, the focus is on relapse and how to avoid it,” she explained. “Through working with community partners, we learned that focusing on the positive goal—recovery—is more aligned with cultural values and practices than focusing on the negative. So our

*Skewes hopes the research will open new avenues to wellness that community members might not currently know how to access. “Rather than trying to deliver a solution, we hope to expand opportunities and provide alternatives to people who can then find a way that works for them.”*

intervention is focused on planning for recovery and building a full, rich, satisfying life that’s incompatible with substance use.”

The goal of the intervention, Skewes said, is to provide opportunities for participants to reconnect with their families, community, and culture as they recover.

“By building up protective factors, like a strong cultural identity and sense of belonging to the community, there will be less space available for substance use and more support for recovery,” she said.

Using data from Skewes’s four CAIRHE-supported preliminary studies, which date from 2014 to the present, the team has worked closely with a community advisory board at Fort Peck to understand what the community believes causes addiction and how tribal members recover from substance use problems, often without formal treatment. The risk and protective factors the team identified in those studies will be the focus of the Indigenous Recovery Planning intervention.

“Infusing cultural content into a pilot adaptation of Relapse Prevention was critical, as we continue to see evidence of cultural identity as a resiliency factor for American Indians,” said **Adriann Ricker**, MPH, Skewes’s longtime research collaborator at Fort Peck and a member of the local advisory board. “Through storytelling,

(See “Skewes R01 Award” continued on p. 10)

## RESEARCH

## SURVEY SHOWS DECLINE IN FOOD SECURITY, MENTAL HEALTH IN MT

From MSU News Service

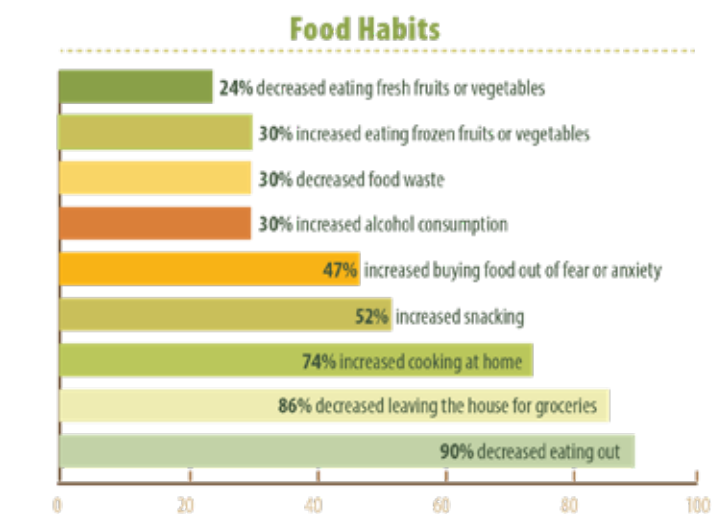
A statewide survey conducted by Montana State University researchers during the COVID-19 pandemic determined that food security—or having consistent access to enough food for an active, healthy life—has decreased substantially among Montanans. At the same time, anxiety and other feelings of mental distress are on the rise.

The [survey results](#), released in December under the title *The Impact of COVID-19 on the Health of Montanans*, include the responses of 1,944 participants between April and September 2020. The research received grant support from CAIRHE.

“This survey was the first of its kind in Montana to report about the immediate impacts of COVID-19 on food security,” said lead researcher **Carmen Byker Shanks**, Ph.D., a CAIRHE investigator and associate professor in MSU’s Department of Health and Human Development. “In addition, we investigated a variety of health variables, since the causes and consequences of food insecurity are multifaceted. To build solutions to food insecurity in our state, we must understand the entire scope of the issue.”

Byker Shanks leads a separate [CAIRHE project](#) that aims to increase the availability of healthy foods at two rural Montana food pantries while promoting nutritious diets to decrease health risks. When the pandemic reduced her ability to work with her food pantry partners last year, she pivoted a portion of her research to include the statewide survey. The project is supported by a three-year, \$464,943 grant from the National Institutes of Health.

Byker Shanks’s co-investigators on the survey project are **Michelle Grocke**, Ph.D., assistant professor in the Department of Health and Human Development and an MSU Extension specialist; **Justin Shanks**, Ph.D., former faculty at the MSU Library; **Eliza**



**Webber**, MPH, CAIRHE research project manager; and graduate research assistant **Kimberly Scanlon**.

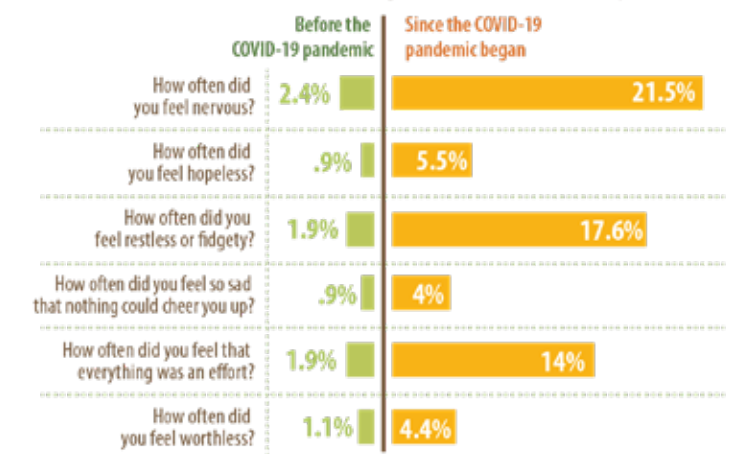
“This research casts light on an often overlooked consequence of COVID-19, which is greater food insecurity and anxiety among many sectors of our rural population that are already facing health

disparities,” said **Alex Adams**, M.D., Ph.D., director of CAIRHE and a nutritional scientist. “It should be an important tool for those who are working to make sure underserved populations aren’t left behind as the pandemic continues.”

During the early months of 2020, the research team developed the online survey to assess the impact of COVID-19 on Montanans’ food security, health behaviors, and health outcomes, then distributed it statewide through email and social media beginning in late April.

## COVID-19 and Its Impact on Montanans’ Mental Health

Percentage of respondents that answered either ‘all of the time’ or ‘most of the time’ to the following mental-health related questions:



These questions are taken from the validated K6 screening scale for psychological distress.

Among the survey’s most significant findings is the reported increase in food insecurity. Prior to the pandemic, 11% of the survey respondents were food-insecure, while 18% reported food insecurity during the pandemic.

“Recommendations to stock up on food and limit trips to the grocery store aren’t possible for those who can’t afford to purchase large amounts of food, or who live in communities without access to a consistent food supply,” Byker Shanks said. “COVID-19 requires considerable and rapid behavioral shifts for everyone, including food management skills to cook more, plan ahead, and reduce waste. Not everyone has the resources to navigate our new situation.”

Not surprisingly, with food hoarding rampant in the early weeks of the pandemic, respondents reported a decline in food availability, particularly in remote communities, Byker Shanks said. About 77% of respondents indicated that some of the foods they needed were unavailable. Nearly half of the respondents reported buying more food out of fear or anxiety (see graphic at left).

Beyond the pandemic’s particular effect on food security in Montana, the survey also explored the broader impact on the well-being of respondents. For example, 34% reported financial hardship due to COVID-19, and 37% said they had engaged in negative health behaviors, such as greater alcohol consumption and more screen time, since the start of the pandemic.

(See “COVID-19 Survey” continued on p. 10)

## RESEARCH HIGHLIGHTS

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

**Carmen Byker Shanks, Ph.D., RDN** ([The Unprocessed Pantry Project \[UP3\]](#)), faced continuing challenges amid the COVID-19 pandemic related to stresses on the rural food banks that are partners in her team's research. Nevertheless, during the past several months Byker Shanks and her colleagues developed a 200-page UP3 Toolkit and a webpage; developed and submitted manuscripts; gave four statewide invited presentations and two national presentations; and disseminated results from a statewide survey on food security and mental health (*see page 3*).

In the coming months Byker Shanks will prepare an NIH R01 grant application proposing a study of the impact of government-funded financial incentives for fruits and vegetables on dietary quality of individuals with low incomes.

**Kelly Knight, Ph.D.**, and co-investigator **Colter Ellis, Ph.D.** ([Somatic Mindfulness Training for a Healthy Workforce](#)), recently authored four manuscripts that begin to evaluate the prevalence of secondary trauma, risk and protective factors, and health outcomes among victim service providers. Meanwhile, they have continued to provide technical assistance, consultations, and training to local organizations, including the Bozeman City Attorney's office, to raise awareness of secondary trauma as an occupational hazard. They have also served as technical and training assistants on a program administered through the International Association of Chiefs of Police seeking to reduce the impact of vicarious trauma. Knight and Ellis continue to refine their secondary trauma intervention curriculum and will use the coming months to develop their first R01 application, likely targeting the National Institute of Occupational Safety and Health, an agency of the Centers for Disease Control and Prevention.

**Monica Skewes, Ph.D.** ([Development and Pilot Test of Indigenous Relapse Prevention for American Indians](#)), and her team have developed and validated their new Indigenous Grief Inventory (IGI) to assess complicated grief symptoms and healing from loss. This 26-item measure has excellent reliability and construct validity and is suitable for use in health research with American Indian/Alaska Native (AI/AN) populations. The team conducted three studies during the year toward the end result, with the most recent activity involving a study to administer the IGI to 600 AI/AN participants who had experienced the loss of someone close to them. These data were used to conduct a factor analysis and psychometric testing of the new measure.

Through continuing data analysis from previous survey work, Skewes and her team identified relationships between historical trauma and substance use outcomes that constitute new contributions to the literature on historical trauma.

This CAIRHE project will conclude in August, with Skewes continuing her important work as part of her new five-year R01 project funded by the National Institute on Drug Abuse (Award No. 1R01DA053791; *see page 2*).

**Lauren Davis, Ed.D.** ([A Trauma-Informed Approach for Positive Youth Development for Montana Students](#)), conducted her trauma-informed yoga intervention for 15- to 18-year-old male and

female high school students in January through early March at a rural high school in Livingston. Analysis of physiological and survey data is currently underway. So far, qualitative data support positive preliminary findings. Student comments included, "The yoga classes helped me feel less stressed and less anxious," and "It made me feel emotionally comfortable and made me feel good about myself."

Davis also conducted a limited feasibility study of online yoga delivery via Zoom. This intervention was delivered for six weeks during students' regularly scheduled physical education class period on remote-learning days. Solid student participation throughout the study and positive comments about the program appear to indicate that this delivery model could have exciting implications for expanding the study to other rural areas, where there may be a shortage of local yoga instructors.

**Kathryn Franklin, Ph.D.** ([Implementing an Internet-Based Cognitive Behavior Therapy Intervention in School Settings](#)), enrolled 133 student participants across two high schools in Miles City and Gardiner in the internet-based Cognitive Behavioral Therapy (iCBT) Youth Thrive program. Over the course of eight weeks, the students (including 66 in the research study) completed the program along with several mental health measures. Franklin later conducted five focus groups with youth participants to understand their experience of well-being, stressors, and the Youth Thrive program. Analysis is underway to understand the potential impact of the Youth Thrive program on youth participants' experience of symptoms of anxiety, depression, and co-occurring disorders. Franklin and her research team also collected data on school policy, procedures, and events that facilitated or hindered the implementation of the Youth Thrive program with youth participants in the school setting. The scope of Franklin's work has expanded to include adult school-community stakeholders as she begins to consider school employee well-being in rural schools.

**Scott Monfort, Ph.D.** ([Modeling of Knee Joint Forces to Understand Osteoarthritis in Agricultural Workers](#)), completed his analysis of physical activity monitoring data collected among Montana agricultural workers during the first year of his pilot project. These results provide insight into fluctuations in physical activity demands in agricultural workers, along with how these patterns differ between farmers and ranchers. A conference presentation and manuscript are under development. Monfort and his team completed a custom lab device to investigate knee loading during the common ranching task of climbing a corral gate. Meanwhile, the team has begun collaboration with a local medical imaging facility to obtain and process the magnetic resonance images that will be used to create personalized musculoskeletal images, as well as assess participants' knees for signs of cartilage defects. In his work ahead, Monfort will collect these images from agricultural workers as the basis for musculoskeletal modeling to estimate compressive forces in the knee during various movements measured in his team's [Neuro-muscular Biomechanics Laboratory](#).

**Stephen Martin, Ph.D.** ([The Impact of SARS-CoV-2 Infection on Age-Related Chronic Inflammation](#)), recruited 70 COVID-

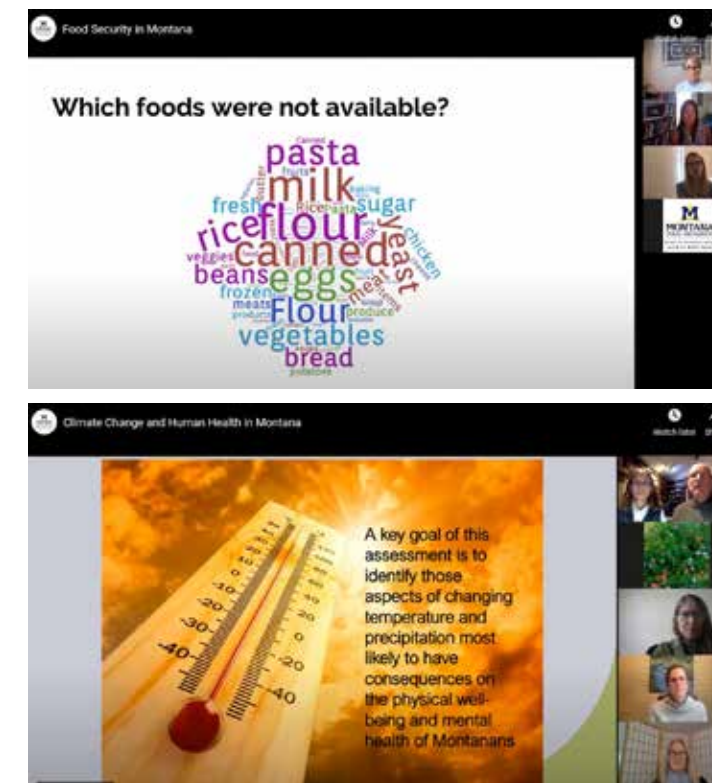
(See "Research Highlights" continued on p. 11)

## COMMUNITY ENGAGEMENT CORE COMPLETES 2020-21 WEBINAR SERIES

CAIRHE and its partners [Montana INBRE](#) and the [American Indian/Alaska Native Clinical and Translational Research Program](#) recently completed their 2020-21 Health Equity Webinar Series.

Organized and hosted by **Sue Higgins, MS**, community research associate in the Center's Community Engagement Core, the webinars examined a variety of issues important to faculty involved in community-based research. The six events were:

- "Food Security in Montana," featuring **Carmen Byker Shanks, Ph.D., RDN** (CAIRHE), and **Michelle Grocke, Ph.D.** (MSU Extension). June 4, 2020.



Videos on CAIRHE's website include the June 4, 2020, webinar on "Food Security in Montana" (top) and the February 17, 2021, webinar on "Climate Change and Human Health in Montana."

- "Biomarkers in Health Equity Research," featuring **Selena Ahmed, Ph.D.**, and **Stephen Martin, Ph.D.**, leaders of the CAIRHE Translational Biomarkers Core. November 12, 2020.
- "Montana INBRE Bioinformatics and Biostatistics Services: A Valuable Resource for Your Research Program," featuring **Carl Yeoman, Ph.D.** (Director, Montana INBRE Bioinformatics & Biostatistics Core). January 21, 2021.
- "Climate Change and Human Health in Montana: A Special Report of the Montana Climate Assessment," featuring **Alexandra Adams, M.D., Ph.D.** (Director, CAIRHE); **Robert Byron, M.D.** (Montana Health Professionals for a Healthy Climate); **Lori Byron, M.D.** (Montana Health Professionals for a Healthy Climate); and **Mari Eggers, Ph.D.** (Research Scientist, MSU). February 17, 2021.

- "How to Win, Sustain, and Leverage Your NIH R15 Grant," hosted by **Brian Bothner, Ph.D.** (Director, Montana INBRE), and featuring **Jason Carter, Ph.D.** (MSU Vice President for Research, Economic Development, and Graduate Education). February 23, 2021.

- "The Good Medicine Series: A Response to Trauma in Native Communities Due to COVID-19," featuring **LeeAnn Bruised Head, MPH**, and **Cynthia Chapman, Ph.D.** (Indian Health Service). May 20, 2021.

"We've enjoyed some truly fascinating presentations from researchers and partners alike, and hope to expand topics next season," Higgins said.

"We like to think of the Health Equity Webinars as a place for public health and research to meet for good information and conversation. I'm also happy that we're able to post these presentations for later viewing."

All six webinars are available as videos on [CAIRHE's website](#).

## RECRUITMENT AND ENROLLMENT ARE UNDERWAY FOR RADx-UP STUDY

CAIRHE and its research partners in Montana and Washington have begun activity as part of their 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 (*see the Fall 2020 newsletter*). 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 grant, awarded last November, is one of 70 RADx-UP grants nationwide and the only one in Montana. Its project title is *Protecting Our Community: A Pragmatic Randomized Trial of Home-Based COVID-19 Testing with Native American and Latino Communities*.

CAIRHE and MSU lead the study, in partnership 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 Confederated Salish and Kootenai Tribes on the Flathead Reserva-



tion in Montana. A local community advisory board is involved in all stages of the research in each study location.

Following Institutional Review Board approvals for the two study sites—the Flathead Reservation in Montana and the Yakima Valley in Washington—recruitment and enrollment began this spring for the study's first two research aims.

(See "Protecting Our Community" continued on p. 11)

## PEOPLE

## VERNON GRANT: FROM LIFE'S CLEARING, A PATH OF HOPE AND HARD WORK

By James Burroughs

*In the clearing stands a boxer  
And a fighter by his trade  
And he carries the reminders  
Of every glove that laid him down  
Or cut him till he cried out  
In his anger and his shame,  
"I am leaving, I am leaving,"  
But the fighter still remains.*

—"The Boxer" by Simon & Garfunkel

Getting **Vernon Grant** to talk about himself isn't always easy at first. Right away it's clear there's a fundamental modesty that holds him back—or, at the very least, a wisdom and a knowledge of life's humbling lessons that go *way* beyond his years. At 39, for all he's seen, he's still a young guy.

Deflecting attention, he might prefer to talk about boxing, which he loves; or horses, which he loves even more than boxing; or his Blackfeet community and people, who are at the heart of all he is; or his four daughters, whom he loves most of all. Or he'll just tell a self-deprecating joke instead, or maybe engage in some good-natured ribbing toward *you*.

The man is so damned charming in his own way that you'll be 10 minutes into a conversation about boxing before either of you remembers that you asked him a question. About him.

And what's a little maddening in all of this is the fact that he has such a moving story to tell. It's the kind of story that, simply put, makes you proud to know him. And so few people in this world have that kind of story.

It would seem like something out of Hollywood if you didn't know it started on the dusty streets of Browning, Montana: On his own since about 13. Heavy into drinking and drugs as just a kid; in trouble with the law, life going absolutely nowhere. Jump ahead several years and he's the pride of the community—or at least one pride of many—as a Ph.D. researcher dedicated to changing the course of health and wellness in his homeland.

You ask him, Man, what on earth lit that fire under you?

And when he's ready to tell you, he'll get quiet and reflective, and he'll go back to a single rotten day in 2003 when one of his best friends, on the same reckless course to nowhere he was on, suddenly fell victim to that life. "The day we buried him is the day I got sober" is how he puts it.

A high-school dropout, he finished his studies at Blackfeet Community College while training hard at boxing—something he'd only dabbled in before as a way to learn how to defend himself on the streets. His immersion in boxing literally saved his life, he

says, and he was good at it, too. He won fights—all but one of them. And it was with that boxer's discipline that he worked toward his Master's and Ph.D. in Exercise Science from the University of Montana. Along the way he thoroughly impressed the leadership of Montana INBRE, who recommended him to **Alex Adams**, then a renowned researcher at the University of Wisconsin who'd been doing collaborative work with Native communities for years. Adams took him on as a postdoc with an NIH T32 grant, and they worked together on her R01 project.

A couple of years after Adams moved to MSU to lead CAIRHE, she hired Vernon in January 2018 as the Center's first assistant research professor. He wrote a K01 grant application that he submitted that June.

It wasn't funded. But he resubmitted a year later and received a perfect score. You better believe *that* one was funded: \$753,133 over five years from the National Heart, Lung, and Blood Institute, awarded in March of last year. He was off and running.

But then—hang on—it all started to feel a bit too much like a feel-good story. (This isn't Hollywood, remember.) Even with his life on an upward course, doubt crept in. Was this someone



Vernon tells his story in his own words in a poignant video on the website **WeAreHealers.org**, a nonprofit initiative featuring stories of American Indian health professionals in an effort to inspire Native youth to consider careers in health care and related fields. The photographs on these pages are taken from that video. Watch the 5-minute video about Vernon at <https://wearehealers.org/vernon-grant>.

else's idea of what he should be doing, someone else's world he's inhabiting?

And the questions kept coming. Couldn't he be just as happy working with kids back home? Or starting a business and simply supporting his family? That would be a pretty good existence.

At a time when he could get a faculty appointment just about

## PEOPLE

anywhere in the country, he's also reluctant to disrupt the lives of his two daughters who live part-time with him. And his mother, getting up in age but ever a force of love in his life, lives in Browning. Even Bozeman would be a leap too far.

The elk keep him grounded, too. He talks with pride about how, as an avid hunter, he provides meat for his family, just as Blackfeet hunters have done for generations. Centuries. "It's in our DNA," he says. (And he's got two freezers full of elk meat to show for it.)

But amid the doubts and the inertia, something about the past 15 months, spent in relative isolation during the pandemic, has given him some clarity about his path. To his CAIRHE support and his K award he recently added a one-year research project grant from Montana INBRE. He's on course to write and submit an R01 grant in the next three years, something he says he's committed to doing.

And on top of it all, he's getting married. He and Chelsea Brave Rock, who works as a nurse for St. Ignatius Tribal Health, quietly got engaged last May and plan to marry as soon

as her family can travel freely again. She and they hail from the Blood Nation, one part of the historical Blackfoot Confederacy located north of the Canadian border. Due to COVID restrictions, movement across the boundary is still kept to a minimum.

So here on the threshold of his 40s, Vernon's year is proving to be a time and place for pause. A deep breath in the clearing before the start of the next round. He relies on his wisdom (again, beyond his years) to know when to sit back and reflect on what life deals you. About all that seems *certain* to him is that the decades to come will be spent somehow in service to his people, a family tradition that goes back at least as far as his great-grandfather, followed by his grandpa Fred Grant, a former tribal councilman, now gone, whose legacy Vernon respects and admires so much.

What seems certain to everyone else is that this guy is going to be a remarkable elder one day. This wise young man of 39, the bloodied fighter who remains, might as well have ELDER IN TRAINING woven into his soul.

But it was the sleep researcher in training who sat down with me one morning from his home in Arlee, Montana.

**The title for your K01 grant is *Developing, implementing, and evaluating a mixed-methods community-based participatory research sleep intervention in families with K-1st grade children living on the Blackfeet Indian Reservation*. For years you've been interested in physical activity and wellness. When and why did sleep come into the picture?**

**V.G.:** When I was selected as a T32 research fellow at the



Vernon poses with his mother at home in Browning.

University of Wisconsin, Dr. Adams was working on her R01 project titled *Healthy Children, Strong Families*. The study was assessing several health behaviors, including physical activity, screen time, diet, and sleep, among others. Naturally I was drawn to the physical activity component and was charged with taking the lead on analyzing and writing about that aspect of the project. But as I became more involved with the study, I got more and more interested in sleep and how sleep impacts health. As I worked on the data that assessed physical activity as the main outcome, I included sleep as a secondary outcome. This led me to author one of the first papers that reported on both physical activity and sleep in an American Indian population.

Throughout my postdoc, I studied the sleep literature to learn how important sleep is to our overall health. I looked back on my 12 years of formal collegiate education and recalled how I was sleep-deprived for the majority of my time as a graduate student. I wanted to learn more about sleep not only to inform my future studies on sleep, but also to help myself in that area since I knew I wasn't getting enough sleep.

Fast-forward a few years, and now my work is focused solely on sleep. Physical activity will always be something I assess in my work, but I now have an immense interest in sleep. In fact, I'm expanding on my skills in sleep assessment and will be learning polysomnography in Dr. Jason Carter's sleep laboratory [at MSU] in the coming years. This is something that excites me, and I'm really looking forward to it.

(Continued on next page)

PEOPLE

**A K01 grant is all about mentoring and professional development, often with lots of travel involved. Your grant started right as COVID-19 hit Montana. What has this first year been like?**

This first year has been very difficult, but that's not unique. It's been difficult for everyone. I think every single researcher has felt the negative effects that COVID-19 has placed on their research progress. I've heard horror stories of researchers having to stop their studies right in the middle of data collection because everything was shut down. Fortunately I hadn't even started the process yet, so I haven't experienced any significant consequences as far as my research is concerned. But other than limited online opportunities, training has been shut down, too.

I think the biggest takeaway that this year has taught me and my family is that everyone should have a wicked stock of toilet paper. One must get toilet paper at all costs! I'm talking, like, hoarding that stuff until the next apocalypse.

**Now that things are opening up a bit more, on the Reservation and elsewhere, how do you plan to use the coming year?**

I was recently awarded a Montana INBRE grant to begin working on my research. This year my goals are to hire my research team, recruit a community advisory board, recruit families and elders, complete data collection—which consists of focus groups with families and elder interviews—and design a sleep intervention with Blackfoot culture and language at the core of everything. In addition to my research, my training goals are to continue honing my code-writing in R, compiling code for statistical analysis, and working with data.

**How has the pandemic changed your outlook on the health disparities that already existed on the Reservation?**

The pandemic has taught us many lessons, mainly that our health is the most important commodity we have. Our people on the Blackfeet Indian Reservation—and all reservations, for that matter—were hit hard, with numerous people contracting the virus and many families having to bury their loved ones. I know that was really hard for our community. These deaths extend to nearly every family on the Reservation.

I've always said that "my health is my wealth." I hope that, if anything, this has brought an awareness of how important it is to keep our bodies healthy in order to fight off disease and viruses. I know that even healthy people have succumbed to COVID-19, but I believe if individuals maintain a healthy lifestyle, they're much more likely to fight off illnesses and live a quality life.

**Part of your passion in life is inspiring others. For you, community-based participatory research is not only about developing solutions to problems from within the community, but also inspiring others to continue the work. What makes you successful at that, and should it be part of everyone's practice of CBPR?**

I wouldn't say that I'm successful, but I will say that I try my

best at everything I do. One of my old boxing coaches always said, "Hard work pays off." He drilled that into my head. All these lessons I learned in boxing also translate to life and anything I do. I think developing solutions to problems in a community-based setting is one of the hardest things to do. People can spend a lifetime working in one community and barely scratch the surface in addressing problems that exist. I think it takes hard work and dedication to impact change. But it's impossible for one person to do it—it has to be a collective or community effort. I can't do this work alone. Everything I've accomplished this far in my journey has been because of the help I received from numerous people. I have so many people to thank. One of my biggest hopes is that I'll be able to help others in their careers just as I've been helped to get where I am today.

As far as others continuing the work, I think the trick is getting everyone to buy in to the cause. If people buy in and believe in what you're doing, then the work will continue, with or without funding. As long as it's having an impact on peoples' lives. The big question, though, is how do you measure that?

**You're driven when it comes to your work, but you don't let it define you. Is that accurate to say? So what other things are you passionate about right now?**

That is accurate to say. I think a lot of people wear their researcher hat in every area of their life, but for me it's something I do to—hopefully—help others. But at the end of the day I'm so many other things. As far as what I'm passionate about, I have a lot

of things I'm passionate about right now. Hunting elk is a huge passion of mine. I love all aspects of hunting: sighting my rifle, cleaning my guns, sharpening knives, hiking the mountains, and killing my prey. I think the most satisfying part is bringing meat home to my family. We butcher all of our own game and give the trimmings to our dog. What we don't use we give back to the land. Another thing I'm intensely passionate about is horsemanship. I educate myself

on all aspects of horse training. Once my fiancée and I find some land, my goal is to break and train all of my own colts. This way I know that they're trained properly, and I'll also add to my hunting string each year by training our own horses.

**Well, you'll have a lot of people rooting for you—in everything you do.**

I appreciate all the love and support I get. I'm very blessed and fortunate to be in the position I'm in. I know what it's like to be poor and to have no direction in life. I can relate to a lot of people on the rez. That's why I agree to do these types of things—not to talk about myself, but in the hope that some kid on the rez reads this stuff and it shows them that no matter where they come from and what circumstances they're facing now, they can find a better path not only for themselves, but for their family and people. 🌱

*"One of my old boxing coaches always said, 'Hard work pays off.' He drilled that into my head. All these lessons I learned in boxing also translate to life and anything I do. I think developing solutions to problems in a community-based setting is one of the hardest things to do."*

IN PICTURES



**Have you seen the CAIRHE logo around the state during COVID-19?** You might have caught a glimpse of one of these posters, or perhaps seen a flyer on how to interpret COVID-19 test results. As one part of a state grant to MSU in Fall 2020, CAIRHE (under the leadership of Dr. Selena Ahmed) and partners at **Salish Kootenai College** developed culturally relevant COVID-19 educational materials, including posters and information sheets, for college students and rural and tribal communities. **The materials are free to use and share.** More examples like those above are found on [CAIRHE's website](https://www.montana.edu/cairhe).

## THE LAST WORD

("Skewes R01 Award" continued from p. 2)

language lessons, and smudging, an energy cleansing practice, we were able to highlight the collective resilience in every participant's history and provide them with tools and resources for cultural restorative pathways on the Fort Peck Reservation."

Over three years, Skewes's team will test the effectiveness of IRP in a clinical trial among 150 tribal members with substance use disorder. The study will assess if and how IRP changes alcohol and drug use, as well as how it influences related outcomes, such as quality of life. In addition, the research will examine the effects that certain cultural factors—such as American Indian identity, spirituality, and communal mastery—may have on treatment.

At the end of the study, they'll evaluate IRP's acceptance in the community. That'll help Skewes and her team adapt it to other communities with similar cultural values and barriers to treatment.

"I've seen the damage that substance use problems have caused for Native families and communities, and the devastation people experience when they lose relatives to addiction," Skewes said. "But addiction is a treatable chronic health problem, and people can and do recover. There are many pathways to recovery, and what works for one person may not work for another."

Skewes hopes the research will open new avenues to wellness that community members might not currently know how to access. "Rather than trying to deliver a solution, we hope to expand opportunities and provide alternatives to people who can then find a way that works for them," she said.

**Ian Handley**, Ph.D., chair of the Department of Psychology, also said that Skewes's latest work has "considerable potential to positively impact Native communities."

"This grant award serves as a testament to the importance of the team's foundational and future work, and it exemplifies the significance of what can be achieved by collaborations between MSU researchers and the tribal communities in Montana," he said.

**Alexandra Adams**, M.D., Ph.D., director of CAIRHE and a co-



On April 22 at the home of Director Alex Adams, CAIRHE presented **Monica Skewes** with a Pendleton blanket in recognition of her first R01 grant. At the same time the Center recognized Skewes's graduate student, **Julie Gameon**, Ph.D. (right), who successfully defended her dissertation on April 1 and received her degree on May 1. Gameon worked with Skewes for several years on her CAIRHE project at the Fort Peck Reservation. She will begin a post-doctoral research position this fall at the UTHHealth Trauma and Resilience Center in Houston.

investigator on Skewes's project, said Skewes has excelled at CBPR by placing the needs and voices of her partner community at the forefront of her research.

"This has been a team effort with Fort Peck since Monica's first meetings in the community in 2014," Adams said. "That's the way CBPR has to be done, and she's a leading example for faculty across Montana and the nation."

In 2019, Skewes, Ricker and **Elizabeth Rink**, Ph.D., of MSU's Department of Health and Human Development were [selected for the Interdisciplinary Research Leaders Program supported by the Robert Wood Johnson Foundation](#). The three have used the program to collaborate with Fort Peck community members and lawmakers to develop effective, compassionate, and health-promoting policies that acknowledge the multiple sources of trauma affecting Fort Peck tribal members. 🌻

("COVID-19 Survey" continued from p. 3)

In a six-question assessment of psychological distress (*see graphic on p. 3*), respondents indicated an increase in all six measures since the pandemic began. For example, thinking back to the period before the pandemic, 2.4% of respondents answered "all of the time" or "most of the time" in response to the question "How often did you feel nervous?" That number jumped to 21.5% for the time after COVID-19 struck Montana.

"Navigating a variety of information in the media was stressful to Montanans because it was unclear what was accurate," Justin Shanks said. "The public needs to be equipped with tangible strategies to access, analyze, and share media in the contemporary digital era that's defined by an ever-increasing pace of access and quantity of information from multiple sources."

But the news isn't all bad, Byker Shanks said. A majority of respondents, 54%, also reported positive health behavior changes since the start of the pandemic, such as more exercise and greater connection with family and friends. At the community level, the survey highlighted a greater sharing of resources and more flexible federal food assistance for those in need.

Last August, with early results of the Montana survey in mind, Byker Shanks [published an editorial](#) in the *American Journal of Public Health* titled "The COVID-19 Pandemic: A Watershed Moment to Strengthen Food Security Across the U.S. Food System." In it, Byker Shanks and her three co-authors from institutions in Arizona and Nebraska said the pandemic provides "an opportunity to develop policy, systems, and environmental strategies to enhance food security, reduce inefficiencies, and decrease inequities, now and into the future."

Also prompted in part by the survey, Byker Shanks and her colleagues [published a position paper](#) in *Translational Behavioral Medicine* titled "Scaling Up Measurement to Confront Food Insecurity in the USA" that outlines strategies to bolster measurement of food security.

In their report on the Montana survey findings, Byker Shanks and her MSU co-investigators make similar recommendations



Carmen Byker Shanks

Photo by Maya Bronston

## THE LAST WORD

for state and local policymakers. Those recommendations include leveraging policy and programmatic support to promote food security; reorienting food systems to ensure adequate food for all; formalizing strategies for resource sharing and the use of federal aid; making mental health resources more readily available; communicating to Montanans through a variety of methods; and creating support systems to encourage positive habits.

"This moment in time highlights a food insecurity crisis that's existed for decades," Byker Shanks said. "We have a responsibility to solve an inexcusable problem in a society where enough food and resources are available, but we don't distribute them equally to everyone."

To learn more about the survey, visit [montana.edu/cairhe/projects/byker-shanks/COVID-19-food-security.html](https://montana.edu/cairhe/projects/byker-shanks/COVID-19-food-security.html). 🌻

("Research Highlights" continued from p. 4)

positive individuals from the Bozeman area to participate in the second aim of his study, which will define the relationship between SARS-CoV-2 infection and long-term systemic inflammation in adults over age 65. Participants with a positive COVID-19 diagnosis—recruited through study flyers at COVID testing sites in Bozeman—came to MSU for blood draws at 10 days, 3 months, and 6 months after their positive test, with the 6-month milestone concluding in May. The blood draws were accompanied by surveys with questions about symptoms, physical and mental health, and sociodemographic factors. From the blood samples Martin isolated serum, plasma, and circulating cell RNA and ran serology assays on all the positive samples to determine the antibody response to SARS-CoV-2 infection. The majority of positive cases were antibody-positive at 3 months and 6 months post-infection, he said, but responses varied for the 10-day time point. He and his team also collected blood and circulating RNA from 30 COVID-negative cases that were confirmed with serology by the absence of antibodies to SARS-CoV-2. "We're just now beginning to work on biomarkers of inflammation and circulating cell transcriptomics, and we anticipate these analyses to be completed by mid-Fall 2021," Martin said. "We'll then begin to integrate the analyses with survey data to develop models between the various factors." Martin anticipates a publication and conference presentation on project data sometime in 2022.

**Cara Palmer**, Ph.D. ([Socioecological Risk and Protective Factors for Sleep Health Among Montana Youth](#)), and her team have completed data collection for Phase 1 of her project, which included cognitive interviews and focus groups with teens and their parents. The team is currently preparing preliminary qualitative data for publication following presentation to the study's community advisory board. Data collection is underway for the study's second phase, which is a larger quantitative study using a multi-informant, multi-method design to investigate predictors and psychological correlates of sleep health disparities. Preliminary findings from the cognitive interviews and focus groups suggest that youth view sleep as an important health behavior, yet participants indicated that many members of their community do not obtain sufficient sleep. Participants also identified that there is a lack of access to sleep-based education resources in their community. Additionally, themes

emerged suggesting numerous socioecological barriers to healthy sleep, including overloaded work/activity schedules, long travel times to school, ranch or farm work, aspects of the physical sleep environment, lack of available leisure activities that might promote sleep (such as team sports), and a number of health behaviors previously identified to be prevalent in rural contexts, such as substance use, electronic media use, and mental health concerns. To date more than 10 undergraduate and graduate students have participated in the research. 🌻

("Protecting Our Community" continued from p. 5)

Aim 1 will determine the cultural, social, behavioral, and economic barriers and facilitators to SARS-CoV-2 testing among the communities, then culturally adapt home-based testing educational and outreach materials. To date, nearly all key informant interviews and focus groups have been completed in each study location, and analysis of the data collected is underway.

The study's second research aim is the completion of a clinical trial to test the effects of active delivery (via trusted community members) vs. passive delivery (via mail) on the completion rates of home-based testing. Recruitment for that trial—which will include 200 participants in each study community—has just begun.

Despite the prevalence of COVID-19 vaccines and loosening of public health restrictions in recent weeks, the need for effective testing will not go away, said **Alex Adams**, M.D., Ph.D., director of CAIRHE and principal investigator for the *Protecting Our Community* study.

"Vaccination rates are not yet where they need to be, and interest appears to be waning, which is troubling," Adams said. "We may continue to see periodic spikes of cases across the country, and acceptance of the vaccine may remain low in certain communities. Also, no vaccine is 100 percent effective, and new variants of the virus may mean that outbreaks could happen for months to come."

Effective testing with higher rates of acceptance could be the key to sustainable resilience amid COVID-19 and similar illnesses in vulnerable communities, Adams added.

"The outcomes from this study will have long-term benefits even once we have COVID-19 behind us," Adams said. 🌻

## ADAMS, RADx-UP STUDY FEATURED ON WASHINGTON PUBLIC RADIO IN APRIL

**Alex Adams** and RADx-UP partner **Laurie Hassell**, director of community engagement at ITHS, spoke to Spokane (Wash.) Public Radio about *Protecting Our Community* on April 21.

The short piece on the National Public Radio member station presented an overview of the study in its earliest stages.

"We decided to work on home-based testing, realizing that home-based testing for any kind of viral diseases or other kind of chronic disease is going to be the wave of the future, and this could be a useful tool," Adams said in the piece.

A complete recording is available on the [Spokane Public Radio website](#).

## THE LAST WORD



Dr. Erik Adams and Sue Higgins uncovered CAIRHE's Health Education and Research Bus (HERB) on May 14 after a long winter hibernation. HERB is open for business beginning this summer.

Photo by James Burroughs

## 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](http://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](mailto: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*  
Julia Barkelew, *Student Assistant*  
Nicole Carnegie, Ph.D., *Statistical Consultant*  
Stephen Martin, Ph.D., *Director, Translational Biomarkers Core Laboratory*  
Eliza Webber, MPH, *Research Project Manager*

### CAIRHE PROJECT LEADERS AND RESEARCH FACULTY

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 © 2021 by the Center for American Indian and Rural Health Equity