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
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 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 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 (IHTH), the Fred Hutchinson Cancer Research Center in Seattle; and Salish Kootenai College and the Con-
W hat 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 lead-er, 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 resil-ience 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 chronic disease.

John-Henderson found that for American Indian adults residing on the Black-feet Reservation, a sense of belonging and connections to traditional 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 similar 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 The UnProcessed Pantry Project [UP3], and has continued to meet regularly with her Community Advisory Board, even as her partners at two rural food banks continue to search for funding and increased federal support to enhance services among their communities during the COVID-19 pandemic. Byker Shanks has been an essential resource in this process, providing training and technical assistance coordinator for VTRI.

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 continue to search for funding and increased federal support to enhance services among their communities during the COVID-19 pandemic. Byker Shanks has been an essential resource in this process, providing training and technical assistance coordinator for VTRI.

Byker Shanks continues to identify and apply to grant mecha-nisms 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 Thrøsen, 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 hos-pitals, 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 Thronsen 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 and writing manuscripts, and preparing for a major grant writing in the coming year. Meanwhile, they continue to consult and conduct trainings with the City of Bozeman Atto-ney’s Office related to their research in secondary trauma. They also serve as stakeholder members of the $8 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 for 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 create a research team to continue the project 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 Un-derstand 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 about 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 a 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 Functions as a Training Therapeutic Target—Anterior Cruciate Ligament Reconstruction.
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 one of the few existing lines of evidence for four-day school week impacts on child and family outcomes.

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 behavior, socioemotional development, mental health, risk behaviors, and educational attainment, she explained.

“When 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 convene an interdisciplinary team of experts in 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 mask-wearing,” the researchers said. “The findings have implications for how parents, teachers, and policymakers may influence 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.”

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 articles, 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 useful 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 ways 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 take community ties more seriously all of the time and cultivate social trust and responsibility (in teen populations).”

Oosterhoff and Palmer study teenage behavior during pandemic.
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 speed of testing for 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.

The project focuses on LAMP testing, short for loop-mediated isothermal amplification. The method is an emerging complex 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 is 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. The MSU team is developing that expertise with the potential to conduct LAMP testing in the field.

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 Katelyn 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.”

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 new, developed youth version of Thrive, a fully automated, standalone program. The new version will deliver CBT skills through educational and real-life adolescent scenarios and tailored feedback video 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 of SARS-CoV-2 positive and negative participants, Martin will measure the prevalence of aging-related chronic 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 (Sociocultural Risk and Protective Factors for Sleep Health Among American 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 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 approvals in mid-October. Those multiyear awards, in amounts up to $10,000 each, were due September 30, with three grants awarded in mid-October. The recipients are:

• Diane Brencic, 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, 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 $5,000, were due September 30, with three grants awarded in mid-October. The recipients are:

• Andreas Thorsen, Ph.D., with co-investigator Colter Ellis, Ph.D., (Modeling of Knee Joint Forces to Understand Osteoarthritis in Agricultural Workers). The three CAIRHE pilot projects were submitted as applications 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.

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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).
EMILY SALOIS, DON WARNE WIN NBH 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. Salois was honored in the Area and Regional Impact Awards category, representing the Indian Health Service’s Billing Area.

“I dedicate this award and am accepting it on behalf of those who are the real heroes, especially during this COVID pandemic,” Salois said in video remarks aired during the ceremony. “To name a few, there are the dedicated prayer warriors, the healthcare care workers who are on the front lines, the students and interns 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.

“If 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. “You think 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 Carla Palmeter, 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 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 Palmeter, who researcher sleep among children, adolescents, and young adults.

“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.”

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) sources.

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 with similar research interests.

For complete details and instructions, visit https://www.montana.edu/cairhe/rfp/index.html.
American Indians and other at-risk populations. Based on this work, AH) Lab at MSU is the center of these studies that explore how Biomedical Research Excellence, or COBRE, grant. In 2019 is funded by the Office of Pragmatic Randomized Trial of Home-Based COVID T esting with partners to create testing protocols that could significantly increase characterized by the view that health is not fixed and can be affect- demographics and early life environments to better understand the disease. Her team measures markers of immune system inflamma- pathways through which these experiences and environments may promote growth health mindsets to improve health. John-Henderson’s Stress, Adversity, Resilience and Health (SAR- belonging in American Indian college students. Sense of belonging to the college community and level of stress, she found, are two fac- tor shape the health-related experiences 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 affect- ed by behavior. In her work, she found that the degree of historical trauma in Blackfeet adults was a strong predictor of mind- sets 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 phys- ical 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 online intervention with the Blackfeet community to promote growth health mindsets to improve health.

John-Henderson’s Stress, Adversity, Resilience and Health (SAR-HE) Lab at MSU is the center of these studies that explore how psychological experiences shape health and disease. Her team measures markers of immune system inflammation and reactivity (including heart rate, blood pressure, and corti- sol in response to psychological stress, sleep, physical activity, and patterns of social interactions and daily life stressors. These mea- surements 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 she works 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 ate and how to take the back and get 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 po- tential 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 lived 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.”

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 emer- gency,” 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, too, that Oosterhoff and Palmer are married, so they were able to collaborate 12 to 10 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 to tackle nicotine 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 the young target population. The couple previously found suc- cess 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 com- mon route of traditional classroom data collection.

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 into practice,” Oosterhoff said. “This is the grandest context, means to re- spond 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 Palm- er 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 expected peer review for the research, giv- en the fast progression of the pandemic.

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 quicky pivot their research to get the survey out early,” said Adams, M.D., Ph.D., director of CAIRHE.

And the while the publication of their work in a major journal was a significant milestone, Oosterhoff and Palmers 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 team studying family contexts and how they motivate 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 pro- gressed—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 gener- ally are socially active, will find it harder to engage in healthy prac- tices such as social distancing as the pandemic becomes more drawn out. And he would like to test his theory that youth who are com- mitted to giving back and volunteering—who have a strong commitment to their communities—will be the ones who have con- tinued to take the pandemic seriously and behave in constructive ways, such as maintaining social distance and wearing masks.

“There’s a lot more to study, but this is a good start that we hope to build upon,” he said.

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