

## COMMENTARY

### BETWEEN TWO WORLDS: IMPACTS OF COVID-19 ON THE AI/AN HEALTH RESEARCH WORKFORCE

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*Abstract: The COVID-19 pandemic has had devastating global and national impacts including major loss of life, economic downturns, and ongoing impairments to mental and physical health. Conducting health research has remained a priority and has helped mitigate some of the COVID-19 devastation; however, challenges to research have arisen due to COVID-19 prevention strategies and changing community priorities for research. The purpose of this article is to focus on a critical piece of the health research process with American Indian and Alaska Native (AI/AN) communities and the AI/AN health research workforce. Throughout this editorial, we provide challenges faced while conducting research with AI/AN communities during the COVID-19 pandemic including changes to research processes and ongoing research studies, taking on multiple roles in academic spaces, and mourning for continuous community loss while continuing to conduct research that may benefit AI/AN communities. Using a strengths-based lens, we also provide examples of flexibility, adaptation, and resilience in the face of the ongoing COVID-19 pandemic.*

## INTRODUCTION

### Impact of COVID-19

The COVID-19 pandemic has had a profound global impact with over 6 million confirmed deaths and 960,703 confirmed deaths in the United States alone (World Health Organization, 2022). COVID-19 mitigation protocols, including social isolation and distancing, have protected some community members from the virus; however, over a year of social isolation has also caused psychological harm (Da et al., 2020; McPhee et al., 2020). Additionally, individuals working in

essential positions (e.g., grocery stores, hospitals) are not able to isolate and are at increased risk of viral infection (Goldman et al., 2021). COVID-19 in the United States has contributed to increases in mental health conditions including depression and anxiety and increases in alcohol consumption (Calina et al., 2021; Saltzman et al., 2021). All communities have felt the impacts of COVID-19; however, some communities have experienced disparities in morbidity and mortality due to socioeconomic factors like working in essential positions and an inability to isolate after COVID-19 exposure due to overcrowded housing (Goldman et al., 2021; Kakol et al., 2021; Saltzman et al., 2021).

### **Impact of COVID-19 on AI/AN Communities**

COVID-19 has had a disproportionate impact on the health and economy of AI/AN communities (Weiner et al., 2020). Throughout the pandemic, AI/AN individuals and communities in the United States have experienced severe inequities in structural and social determinants of health, including lack of basic resources such as running water and electricity (Brosemer et al., 2020; Silva et al., 2021). Tribal Nations also have some of the highest levels of household overcrowding in the United States (Singleton et al., 2009). These disparities made COVID mitigation strategies, such as frequent handwashing and quarantine, a challenge for many AI/AN communities (Kakol et al., 2021). In addition, due to rurality and other issues, health care is often either impossible or near impossible to access (Kakol et al., 2021). COVID-19 has also had a profound impact on Indigenous determinants of health, which acknowledge that AI/AN health is influenced by sociopolitical, historical, and cultural factors, such as sovereignty, connection to land, language, cultural teachings, experiences with racism, and access to health care (Greenwood et al., 2018). Tribal sovereignty, which is the right of AI/AN Nations to govern themselves, empowered tribes to enforce their own mask mandates, secure their borders, and identify their own vaccine priority groups, such as traditional language speakers and elders (Brown, 2021; Hiraldo et al., 2021).

The purpose of this article is to describe the challenges experienced by AI researchers and scholars who are engaged in research with AI/AN communities during the COVID-19 pandemic. We (the authors of this article) identify as parents, siblings, daughters, family members, and as members of AI communities. We also identify as AI women who engage in research with AI/AN communities as a doctoral candidate (CC), a postdoctoral scholar (AMH), an Assistant Scientist (JR), and an Assistant Professor (AAJ). Throughout the article we describe challenges we have

faced while conducting research with AI/AN communities during the COVID-19 pandemic including changes to research processes and ongoing research studies, taking on multiple roles in academic spaces, and mourning for continuous community loss while continuing to conduct research that may benefit AI/AN communities. We intentionally provide strengths-based examples of flexibility and adaptation, beginning with a spotlight on the protective factors, to highlight the ongoing resilience exemplified by AI/AN communities during the COVID-19 pandemic. It is this resilience that has ensured AI/AN collective survival since time immemorial.

### **PROTECTIVE FACTORS**

For centuries, AI/AN communities have had to negotiate and fight for political, spiritual, and humanistic rights, all of which are at the heart of AI/AN sovereignty. Along with this fight, AI/AN scholars and practitioners have struggled with the lack of representation of AI/AN peoples within academia, where AI/AN peoples are often excluded from data and reporting and omitted from decision making practices within curriculum and research (Shotton et al., 2013). This lack of representation has unfortunately translated to all facets of AI/AN life, including health equity, access to essential services, and data representation. These inequities have contributed to the disproportionate impact of COVID-19 on AI/AN peoples. This editorial aims to highlight the impact of COVID-19 within AI/AN communities through our experience as AI/AN scholars from a strengths-based lens. Indigenous health is often discussed from a deficit-based perspective but, as Indigenous scholars, we have a collective responsibility to highlight and learn from the positive aspects and experiences within AI/AN communities that have reinforced health, culture, family, and community during these trying times.

Based on the practices of “exercising” sovereignty (i.e., physical activity in performance of cultural, political, and spiritual citizenship), Leonard and colleagues (2021) identified protective factors that protect AI/AN communities from stressors like a pandemic (Ali-Joseph, 2018). Community, relationality, abundance, strength, and resilience were all identified as protective factors for AI/AN communities throughout the pandemic. In spite of the disruption that COVID-19 had on the lives of AI/AN peoples, including cancelation of indoor events and preventing community cultural activities, AI/AN communities employed unique strategies to mitigate the spread of COVID-19. For example, many AI/AN Nations closed their borders, where no one was allowed on tribal land without Tribal identification or proof of residence. From the Navajo Nation and Hopi Tribe in Arizona to the Qualla (Eastern Band of Cherokee) Boundary in North Carolina

and Georgia, AI/AN Nations implemented boundary restrictions to keep their community members safe (Humeyestewa et al., 2021; Leonard et al., 2021). Border closures minimized traffic, and many families capitalized on recommendations to physically distance by spending more time outside and enjoying nature. Communities also shifted from in-person to virtual programs that incorporated physical activity and collective support. For example, the 2020 Virtual “Just Move It” run/walk series in the western Navajo Nation had record breaking participation and incentivized participants to track and share their movement on virtual platforms.

We have seen AI/AN people utilize social media to reimagine community in digital spaces such as the “Social Distance Powwow” on Facebook and the #ExercisingSafeSweats social media campaign launched by the Northwest Native American Center of Excellence on Instagram. This campaign encouraged community members to “protect the ones you love by practicing your ways at home” (Leonard et al., 2021). These examples of leveraging protective factors through physical activity promotes an abundance-based approach to AI/AN community experiences in response to COVID-19, rather than focusing on deficit language and responses. As AI/AN people, we have to remember, encourage, and honor these experiences as we continue to navigate through the pandemic. As sovereign Nations, the political, cultural, and spiritual citizenship of AI/AN people is strong and abundant. While AI/AN communities worked creatively to protect themselves from COVID-19, the health research community was working to sustain important studies and to start new COVID-19 studies that might benefit AI/AN communities.

## COVID-19 AND RESEARCH

COVID-19 has had a major impact on research in general. The influence was “rapid, dramatic, and no doubt will be long term” (Weiner et al., 2020). The COVID-19 pandemic has forced AI/AN researchers, and those conducting research with AI/AN communities, to adapt to shifting research priorities while using their areas of expertise to address pandemic challenges.

### **Inequities in Research Funding**

Researchers have experienced challenges through all phases of the research process beginning with meeting funder expectations and quick proposal deadlines to shifting research focus and publishing studies that are generalizable to the larger population (Radecki & Schonfeld, 2020). These challenges often conflict with best practices for conducting research with AI/AN

communities that include allotting time and space for partnership building, listening to AI/AN community research priorities, and recognizing the diversity that exists between each AI/AN community (Wallerstein et al., 2019). Although national funders recognize the importance of best practices for conducting research with AI/AN communities, COVID-19 has exacerbated research funding inequities due to the aforementioned challenges. For example, the National Institutes of Health (NIH) awarded \$308 Million for research on AI/AN health in 2020, just 0.01% of the total amount awarded for that same time period (National Institutes of Health [NIH], 2021). During the same year, AI/AN communities experienced tremendous disparities in COVID-related morbidity and mortality (Khatana & Groeneveld, 2020; Rodriguez-Lonebear et al., 2020). Research funding was, and continues to be, direly needed to explore underlying factors and impacts of the COVID-19 pandemic on AI/AN communities. Such findings will help AI/AN communities with future emergency and pandemic preparedness. This specific challenge, structural health inequity, has yet to be addressed.

### **Outreach and Engagement**

Another challenge in the process of conducting research with AI/AN communities during the COVID-19 pandemic is the process of outreach and engagement with research participants and partnering organizations. Before COVID-19 spread throughout the United States, face-to-face community outreach was imperative to establishing research and programmatic relationships between academic institutions and AI/AN communities (Wallerstein et al., 2019; Whitesell et al., 2020). AI/AN communities have experienced unethical practices in research throughout history that have, justifiably, caused distrust and disinterest in the research process (Beans et al., 2019; James et al., 2018). Researchers need to continuously work to establish trust by building equitable relationships, conducting outreach activities, and providing positive research engagement experiences. Due to social distancing mandates and stay-at-home orders, community outreach, stakeholder engagement, participant recruitment, and implementation were adapted to focus on virtual connection including through telephone, social media, and live video chat services. For example, one author's study converted recruitment materials to image files and shared them on Facebook and Instagram. This study also inserted QR codes on recruitment materials to easily redirect participants to a website that provided study and contact information. In another example, the Navajo Nation frequently used Facebook Live to disseminate COVID-19 messaging. The challenge to outreach and engagement was met by relying on academic-community relationships

that existed before COVID-19 and by leveraging the social capital of AI/AN scholars and allies who conduct community based participatory research (CBPR).

The shift from face-to-face engagement to virtual recruitment and relationship building hit roadblocks in many AI/AN communities. The lack of technological infrastructure imposes a digital divide among AI/AN communities that most of the United States does not face (Smith, 2021). These communities are often in rural or isolated areas with 50-88% of homes on tribal lands lacking internet/broadband access (Wang, 2018; Graves, 2020). In some communities, up to 50% of homes do not have phone service (National Congress of American Indians, 2021). AI/AN communities and the authors have addressed this issue by applying for and using federal COVID-19 funds to improve community infrastructure by increasing broadband capabilities, improving telemedicine services, and even developing computer labs for the community (Stephens et al., 2020).

### **Changes to Research Approval Process**

Research review is a critical step to maintaining tribal sovereignty. Respectful research review includes following tribally defined procedures and maintaining open lines of communication throughout the life of the research project. Tribal research review serves as one extra layer of protection against harmful or poorly designed research, and it also allows AI/AN Nations to determine their own research priorities. Obtaining approval for research with AI/AN communities can be challenging, often adding extra steps for approval and extra time allotted before research can officially begin (Research Data Alliance International Indigenous Data Sovereignty Interest Group, 2019; Wallerstein et al., 2019). The process of obtaining research approval in multiple AI/AN communities is often complex with each individual community having its own process (Research Data Alliance International Indigenous Data Sovereignty Interest Group, 2019). Some AI/AN communities have established research review boards while others may require a presentation before different levels of community leadership (Tribal Council, partnering Tribal departments, etc.). In some cases, Indian Health Services (IHS), the Bureau of Indian Affairs (BIA), and other government entities add additional steps to the approval process. COVID-19 has led to changes in the research approval process for those attempting to conduct research with AI/AN communities. Based on authors' experiences, there was a time period early in the pandemic where review boards and Tribal leadership either canceled or postponed reviews.

Review boards did not meet for a multitude of reasons including the urgent need to redirect tribal resources towards COVID-19 response efforts and a lack of broadband and phone access to host virtual meetings.

At the logistical level, Tribal departments had to adjust to altered work schedules and a shift to virtual review processes. In response to the shift to virtual processes, authors observed research review boards modify their procedures to include teleconference and/or virtual Zoom platforms. These logistical changes, coupled with an increase in pandemic-related research proposals, led to extended research review timelines. Authors experienced and observed other researchers working with AI/AN communities quickly adapt to these changes by prioritizing early and consistent communication with AI/AN research review boards and committees.

### **Modified Study Designs, Methods, and Analyses**

Finally, COVID-19 has had an impact on the study design, methods, and analyses involving research with AI/AN communities. In one instance, a randomized controlled trial (RCT) intended for implementation in July 2020 was adapted into a virtual service delivery program available to the same population over Zoom video conference (Patel et al., 2022). In altering the study design, the intervention shifted from a group-based model to individual lessons. While this adaptation was both feasible and acceptable, internet connectivity presented a challenge for virtual implementation (Patel et al., 2022). In another author example, a community-based study had to be paused until the partnering tribal communities allowed for in-person research due to the lack of infrastructure, lack of funds to improve connectivity, and near impossibility to move the intervention to a virtual platform.

In-person research in progress at the beginning of the COVID-19 pandemic faced participant dropout and increased safety concerns for continuing participants. In general, researchers had to adjust their analyses to account for participants who did not finish the study due pandemic-related (e.g., participant infection) or other reason (Cro et al., 2020). Studies that were not able to modify their study design quickly due to budgetary or personnel concerns faced extended timelines. New research that has been proposed and/or started since the start of the COVID-19 pandemic has had to include study designs and methods that allow for flexibility in participant engagement and data collection that might not be the most desirable form of data collection. For example, in-person interviews and focus groups have switched to virtual platforms, running the risk of losing valuable contextual information that occurs in-person (Pocock et al.,

2021). Additionally, working with AI/AN rural communities presents challenges including issues with internet connectivity, further limiting the forms of data collection and quality of data for analysis. Authors have observed AI/AN research participants demonstrate incredible flexibility and patience with researchers during the pandemic, often taking the time to learn new forms of technology and even traveling to locations with reliable internet. Researchers working with AI/AN communities have also adapted to these changes by becoming more familiar with new forms of data collection and analysis (Cro, 2020; Gray, 2020). Although COVID-19 challenges have strained research with AI/AN communities, adaptations have been made in order to continue conducting valuable research that may ultimately benefit Tribal Nations. Collectively, the pandemic-induced increase in broadband access and technological literacy among AI/AN people has narrowed the digital divide. Resulting long-term benefits may include increased telehealth visits, increased virtual schooling options, and more remote work opportunities for AI/AN community members.

### **AI/AN SCHOLARS ENGAGED IN RESEARCH**

The lack of AI/AN representation in research has been cause for alarm, so much so that the largest research body in the United States (NIH) has prioritized the recruitment of “underrepresented populations” including AI/AN peoples into the research workforce and as participants in studies (NIH, 2019). Community participation in research has allowed AI/AN communities to define their own strategies for prevention of disease and promotion of health and has led to the development of therapies and interventions that are culturally appropriate for AI/AN peoples (Stanley et al., 2020). Although research with AI/AN communities has been successful, there have been dire consequences when research is conducted without community input and when AI/AN researchers are not involved. Exploitative research practices have ranged from misuse of biospecimens to continued perpetuation of harmful stereotypes by non-AI/AN researchers who do not understand the historical factors that cause the disparities we see today (Hoss, 2019; James et al., 2018; Stanley et al., 2020).

Research practices guided by AI/AN communities, particularly by applying CBPR approaches, have been shown to successfully address concerns about research ethics (Wallerstein & Duran, 2006). CBPR engages the community throughout the research process from identifying its own research priorities to increasing community capacity to conduct research (Brayboy & Deyhle, 2000; O'Toole et al., 2003; Viswanathan et al., 2004). AI/AN researchers are integral to



the research process and workforce because they often have lived experiences that connect them with AI/AN research participants. Further, AI/AN researchers serve as advocates for ethical treatment of their communities and are also continuously advocating for the use of AI/AN methodologies and theoretical frameworks. AI/AN researchers often bear the responsibility of connecting academic and research institutions with AI/AN communities. Challenges to conducting research with AI/AN communities have been met with flexibility, creativity, and by leveraging the cultural capital of AI/AN scholars and allies.

AI/AN scholars have experienced a unique struggle during the COVID-19 pandemic that has made engaging in research even more challenging. Academic professionals experience stress and burnout due to overloaded schedules packed with research, service, and teaching duties (Minter, 2009). AI/AN women, in particular, face challenges including feelings of isolation as the only AI/AN person in their department, feeling their research is undervalued, struggling to find AI/AN mentors, trying to balance academic and family demands, having to go outside their departments for intellectual support, and experiencing racial/ethnic and gender bias (Tippeconnic-Fox, 2008). Given that COVID-19 influenced 55% of university and college faculty to seriously consider a career change or early retirement, we expect this estimate is higher among AI/AN faculty (Tugend, 2020).

### **Cultural Capital**

As AI/AN people, it is not just about individual success and well-being, it is about our responsibility to our people in our communities and our homelands. This collective thought is at the core of our identity as AI/AN peoples. This collective worldview, unfortunately, does not often translate into academia. As scholars, we have academic standards, deadlines, and reviews every semester in order to advance successfully within our respective careers. During COVID-19, these expectations and standards seemed obsolete and secondary to the impact of COVID-19 within AI/AN communities. AAJ often found herself wondering why writing a “self-evaluation” within her faculty tenure review was necessary when families were struggling to survive. With two young children at home who deserved attention, with students who were struggling to log into class, and with AI/AN communities losing elders, it was an internal struggle to care about publishing work and meeting deadlines. AAJ reconciled that academic excellence would be impacted because family, communities, and children came first and deserved more attention.

### **Grief and Helplessness**

As AI/AN scholars, we grieved with our communities over the loss of relatives, friends, teachers, and elders. Grief was compounded by the inability to grieve through ceremony and without social connectedness, and by the social structures that restrict bereavement leave to losses in the immediate family. Perhaps the most devastating impact on AI/AN communities was the loss of elders, traditional knowledge keepers, and language speakers. AI/AN elders are pillars of the community and are revered for their cultural knowledge and resilience through decades of assimilation efforts. The magnitude of their passing was immeasurable. In many cases, their passing meant the loss of language, stories, songs, plant medicine teachings, and ceremony. As members of AI/AN communities, AI/AN scholars have had to manage feelings of helplessness along with personal and collective grief. Like many AI/AN relatives, AI/AN scholars took on a caregiver role for family members who contracted COVID-19. We take on many roles as AI/AN scholars on top of conducting research including academic teaching, mentoring younger AI/AN scholars, providing resources to our tribal communities, disseminating accurate and trustworthy COVID-19 information, caring for family, and caring for community.

### **Teaching and Mentoring**

As AI/AN faculty and scholars, we have a responsibility not only to meet teaching and research standards, but also to take care of our students and the communities they come from. By nurturing our AI/AN students, AI/AN faculty and scholars often take on an “Auntie role,” where we become the support system students need while away from home. To some of us, this is the most important role as an AI/AN scholar, and one that takes precedence over all other responsibilities. We recognize the hardships AI/AN scholars endure and acknowledge the support systems that carried us through those challenging times. As AI/AN women scholars, we feel a cultural and matrilineal responsibility to help younger AI/AN students succeed in academia. COVID-19 placed a tremendous strain on AI/AN students’ ability to “log in” and participate in class due to connectivity issues, caretaking responsibilities, and the loss of several family members. Unfortunately for many AI/AN students, they faced difficult decisions about whether to continue with school or move back home and help with family. While this certainly should never have to be a choice for any student, many of AAJ’s AI/AN students felt they did not have support from non-AI/AN faculty and, therefore, had to leave their studies behind. With so few AI/AN

faculty within academia, it is our responsibility to advocate for our students. Rather than teaching the core principles of her discipline, much of the last year and a half was spent on the phone with AI/AN students helping them through personal hardships and with drafting emails to their other professors, explaining the need for extensions and additional resources (AAJ). The clash between AI/AN relationality and Western constructs of academia came to a head during COVID-19, as education inequities for AI/AN students, staff, and faculty became more apparent within our daily lives. We take solace in the fact that we are supportive “Aunties” to AI/AN students and can provide a safe space for them to learn, mourn, and find their own balance within community and academia.

### **CONCLUSION**

As Native women, we are deeply invested in the health and advancement of AI/AN peoples, and we cannot separate our identity as Native women from our work. For this reason, all of our research, service, work experience, and teaching center around health promotion and disease prevention for AI/AN communities. These truths did not change during the COVID-19 pandemic. In fact, COVID-19 may have served as a reminder to AI/AN scholars that protecting our communities and families is the most important responsibility we have. As a critical piece of the health research workforce, AI/AN scholars have struggled to push through with research while dealing with constant worry and collective grief caused by COVID-19. However, with support and understanding from funders, academic institutions, allies, and our own communities, we have made changes and adaptations. Additionally, we have gained strength after learning the creative ways our communities have strategized to protect their citizens and lifeways. Through the COVID-19 pandemic and future public health emergencies, we aim to continue “being good relatives” by centering our research, teaching, and service on promoting health among AI/AN students, colleagues, and communities.

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### **CONFLICT OF INTEREST**

The authors declare that they have no conflict of interests.

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