Interconnectedness of Culture and Science

Featured Information from Guest Lecture by Donald Warne, M.D., M.P.H. (Oglala Lakota)
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As part of the 2021 National Native American Heritage Month at the National Institutes of Health (NIH), Dr. Donald Warne, of the University of North Dakota, provided an overview of Indigenous Knowledge. Dr. Warne, a member of the Oglala Lakota Tribe from Pine Ridge, South Dakota, shared his thoughts on ways that Indigenous Knowledge and modern scientific biomedical research can be used together to provide a deeper understanding of human health and our relationship with ourselves, one another, our communities, and the universe.

In his overview, Dr. Warne made several key observations:

- Scientific investigators should develop respect for Indigenous Ways of Knowing. Indigenous peoples have cultivated knowledge over millennia, some examples of which have only recently been discovered. Examples from multiple disciplines include the amazing feats of engineering and architecture accomplished by the Maya; the health benefits and ecological sustainability of Indigenous foods; the use of natural medicines, such as willow bark tea (containing salicin) to treat pain; and the use of Traditional Medicine and ceremony to heal people struggling with mental health and addictions. Indigenous Knowledge should not be viewed as a romanticized version of Native spirituality but rather as a set of validated observations that add practical value to human existence. Likewise, keepers of Indigenous Knowledge should develop respect for scientific research and its potential to help operationalize and quantify findings and to replicate them in other populations, environments, and fields of inquiry.

- Dr. Warne used the Medicine Wheel as an example of viewing health through an Indigenous lens. The Medicine Wheel is most commonly used to describe the interrelationship of physical, mental, emotional, and spiritual health, but it also can be used to understand family relationships, biospecimen research and its significance in historical and intergenerational trauma, and connectedness to both past and future generations.

- The benefits of research rest on a balance between the negative history and issues that created mistrust of researchers among Indigenous communities and the need to advance science and solutions for those communities. Developing a diversified workforce with Indigenous investigators who possess lived experience in Indigenous communities is the best way to promote Indigenous health as its own paradigm. Dr. Warne described the development of a Ph.D. program in Indigenous Health at UND and the importance of recruiting Indigenous faculty to, in turn, recruit Indigenous students; tailoring the delivery of academic instruction to the students’ needs; and developing curriculum aimed at de-colonizing subject areas, as well as the overwhelming response from students interested in enrolling in this program as a result of its design. The program focuses simultaneously on Indigenous and modern scientific methods and approaches to gaining a better understanding of the subject matter.
Traditional Medicines have been used very effectively to treat behavioral health conditions. Dr. Warne advocated for moving away from a deficit-based paradigm to a strength-based paradigm, in which parity and equity are promoted, and traditional ceremony contributes to strength and resilience. He also discussed the need for intellectual property rights related to misuse of Traditional Medicines by unqualified practitioners—misuse that sometimes leads to tragic outcomes.

Dr. Warne stressed the importance of data interpretation, using the example of problem-focused researchers’ characterizing American Indian populations as having the highest rates of alcohol abuse and alcoholism instead of focusing on the data that demonstrate that American Indians have the highest rates of abstinence. He identified the need for data coordination at the federal level and highlighted the National Indian Health Board and its rapid development of a clearinghouse for Native American data related to the COVID-19 pandemic.

In Indian Country, the messenger matters. A justifiable mistrust of researchers exists in Indigenous communities. That mistrust is lessened when the researcher and research assistants are themselves Indigenous. Dr. Warne emphasized the need to use community-based participatory research when conducting research in Indigenous communities by including Tribal leadership and community members in designing and implementing a study and in interpreting results. Informed consent, in particular, requires extensive work to understand the culture and language and ensure the terms of consent are accurate and complete.

THRO is the central point of contact at NIH for federally recognized American Indian and Alaska Native Tribes. Learn more: nih.gov/tribalhealth.

Dr. Warne wove the Lakota concept of Mitakuye oyasin—“We are all related” or “All my relations”—throughout his presentation to relate the theme of interconnectedness to Native American Heritage Month at NIH. He closed with a quotation from Black Elk, Oglala Lakota:

“Everything the Power of the World does is done in a circle. The sky is round, and the earth is round like a ball, and so are all the stars. The wind, in its greatest power whirls. Birds make their nest in circles, for theirs is the same religion as ours. The sun comes forth and goes down again in a circle. The moon does the same and both are round. Even the seasons form a great circle in their changing, and always come back again to where they were. The life of a man is a circle from childhood to childhood, and so it is in everything where power moves. Our tepees were round like the nests of birds, and these were always set in a circle, the nation’s hoop.”