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# Breathing clean air is *Sa'áh Naaghái Bik'eh Hózhóó* (SNBH): a culturally centred approach to understanding commercial smoke-free policy among the Diné (Navajo People)

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## ABSTRACT

**Introduction** Indigenous worldviews and research approaches are fundamental to make meaning of complex health issues and increase the likelihood of identifying existing cultural protective factors that have contributed to the resilience and survival of Indigenous people worldwide.

**Objective** We describe the process for applying the Diné (Navajo) paradigm of *Sa'áh Naaghái Bik'eh Hózhóó* (SNBH), a belief system that guides harmonious living, and demonstrate how the application of SNBH enhances understanding of Navajo principles for well-being. Specifically, we juxtapose this analysis with a conventional qualitative analysis to illuminate and interpret Diné perspectives on the health and economic impact of commercial secondhand smoke and smoke-free policy.

**Methods** Focus groups were conducted throughout Navajo Nation to assess the appeal and impact of several evidence-based messages regarding the health and economic impact of smoke-free policy.

**Results** Diné perspectives have shifted away from family and cultural teachings considered protective of a smoke-free life, and struggle to balance the ethical and economics of respect for individual and collective rights to live and work in smoke-free environments.

**Conclusions** Indigenous-centred approaches to public health research and policy analysis contribute to understanding the cultural knowledge, practices and beliefs that are protective of the health and well-being of Indigenous people.

## INTRODUCTION

Indigenous worldviews and research approaches are fundamental to make meaning of complex health issues and increase the likelihood of identifying existing cultural protective factors that have contributed to the resilience and survival of Indigenous people worldwide. Unlike a western research paradigm, an Indigenous research paradigm considers the unique history and cultural teachings of the community being studied, including the researcher's relational accountability to the research question and the participants who share insight on the topic.<sup>1 2</sup> Such an approach is fundamental to informing public health policy and environmental change needed to achieve health equity among Indigenous people.<sup>3 4</sup> Yet, public health research with Indigenous communities has historically been designed according to outsider

perspectives; thus, lacking meaningful inclusion of Indigenous worldviews throughout the research process.<sup>1 2 5 6</sup> Not fully engaging Indigenous worldviews and research paradigms risks widening health inequalities faced by Indigenous people through the misinterpretation and misapplication of public health strategies and policy, which could exacerbate social and structural determinants of health.<sup>3 4 7</sup>

Worldwide, scholars have begun to engage Indigenous worldviews and research methods to understand Indigenous health and well-being and inform public health policy.<sup>1 8–14</sup> For example, Maori researchers have developed a conceptual framework to critically analyse and recommend how the full breadth of the Maori health and well-being worldview can be incorporated into the existing health system frameworks for the country of New Zealand.<sup>15</sup> Other Maori scholars have outlined a research process that is 'by Maori for Maori' which acknowledges Maori pathways and barriers for understanding and caring for heart disease.<sup>10</sup> Through the Maori research process, researchers are able to identify the appropriate systems and policies to improve healthcare services.<sup>10 16</sup> In the USA, Diné (Navajo) researcher and nurse Michelle Kahn-John is advancing public health nursing's understanding of health and well-being through *hózhóó*, an element of wellness within the Diné worldview that guides the restoration of balance and harmony for Diné people.<sup>8 17</sup> Such Indigenous-centred approaches to public health research and practice maximise the cultural knowledge, practices and beliefs that are protective of the health and well-being of Indigenous people.<sup>4 8 17</sup> Here, we aim to describe the process for applying the Diné paradigm of *Sa'áh Naaghái Bik'eh Hózhóó* (SNBH), a Diné belief system that guides harmonious living, and demonstrate how the application of SNBH enhances the understanding of Navajo principles for well-being and perspectives on smoke-free policy. Specifically, we juxtapose this analysis with a conventional qualitative analysis to illuminate and interpret Diné perspectives on the health and economic impact of commercial secondhand smoke (SHS) and smoke-free policy.

## Smoke-free policy on Navajo Nation

SHS exposure has been cited extensively in the scientific literature as a cause of cancer and cardiovascular disease, and as an exacerbating factor in a



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host of other health problems.<sup>18 19</sup> The US Surgeon General's Report in 2006 concluded that there is no risk-free level of exposure, and any exposure to SHS is harmful.<sup>20</sup> Commercial tobacco products are now not only widely used among American Indian youth and adults for recreational use but has also gained a certain measure of acceptance as a substitute for *nát'oh*, or traditional mountain smoke, within ceremonies and cultural events on many tribal lands, including Navajo Nation.<sup>21</sup> For nearly a decade, policies to prohibit SHS in workplaces and in public places have been proposed on the Navajo Nation.<sup>22–25</sup> Yet, the Navajo Nation's central government has not enacted a comprehensive smoke-free policy. Thus, the Diné face a dilemma in how to maintain ceremonial uses of *nát'oh* that promote spiritual and mental health, while simultaneously discouraging the secular uses of commercial tobacco detrimental to Diné well-being.

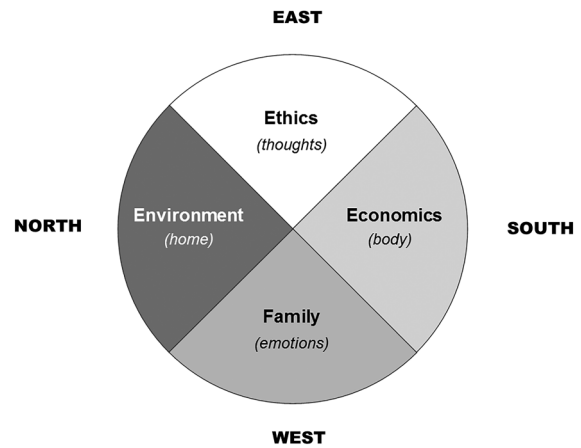
### Overview of Diné worldview

Diné health beliefs are deeply linked to the relationships they establish and maintain with others and the environment.<sup>8 26</sup> SNBH is an abstract principle that provides teachings to protect against the imperfections of life and promote healthy balance.<sup>26 27</sup> SNBH comprises four areas of balance that contribute to the state of perfect harmony, which include thought, body, emotions and home. This state of harmony and balance is known as *hózhó*, which also conveys intricate notions of beauty, harmony and order. Through SNBH, the wellness of the whole person considers the body, mind, spirit and environment.<sup>17</sup> *K'é* is a core element of SNBH that lends structure to the behaviours and relationships of Diné people and all life forms, and is 'the substance that binds together the present and future, concern and compassion, and is the foundation for *hózhó*'.<sup>28 29</sup> A principle teaching of *k'é* is exercising respect for all life forms on earth and in the cosmos.

### Application of SNBH to smoke-free policy

In 2005, the Navajo Nation Council and the Diné College Board of Regents established the Diné Policy Institute (DPI) as a research centre within Diné College to articulate, analyse and apply the *Diné Bi Beenahaz'áanii*, or Navajo Fundamental Law, to issues affecting the Navajo people.<sup>29</sup> The educational philosophy of SNBH guides DPI's work in conducting 'applied research from Diné knowledge to provide innovative solutions that address the social, economic and cultural well-being of the Navajo Nation'.<sup>30</sup> The SNBH paradigm grounds Diné analysis in an ordered cycle of *Nitsáhákees* (thinking), *Nahat'á* (planning), *liná* (life) and *Siihasin* (stability or restoration of balance and harmony through reflection) using the holistic concepts of *K'é*, *Hózhóojí* (positive forces), *Hashkéijí* (negative forces) and *Alch'í silá* (duality of life).<sup>29</sup> The aim of SNBH is to understand sources of imbalance and restore *hózhó* by defining, investigating and analysing a problem, and then reaching consensus to solve the problem.<sup>29</sup> DPI has produced several policy analyses using SNBH and Navajo Fundamental Law principles to inform issues regarding governance and food sovereignty on Navajo Nation.<sup>30–32</sup>

In 2011, DPI consultants used the SNBH paradigm (unpublished PowerPoint presentation: Yazzie R, Singer J, Benally M. Using *K'e* to understand *Nat'oh* in the Navajo Nation. In: Institute DP, ed., 2010) to examine the issue of commercial tobacco policy. Through this process, DPI consultants identified and categorised four external forces (eg, ethics, environment, economics and family) influencing the foundation of SNBH as it relates to commercial tobacco policy and the Diné (figure 1). Each external force aligns with one of the four areas of



**Figure 1** Circular model of the Sā'ah Naaghái Bik'eh Hózhóó (SNBH) framework, based on the Diné worldview.

SNBH-balance. DPI analysed the economic, familial, ethical and environmental impacts of adopting a Navajo Nation smoke-free law. Economically, DPI predicted negative impact to gaming revenues, but positive impact on the long-term productivity of workers.<sup>33</sup> The impact to family identified a reduction of risk by reducing exposure to firsthand smoke and SHS, equating to longer lives for family members and longevity of relationships. Ethically, DPI found smoke-free policy to be consistent with principles of *k'é* and would decrease the likelihood of infringement on the rights to live in *hózhó*. Environmentally, smoke-free policy was aligned with *k'é* principles, and promoted respect for all life on earth. The intent of DPI's work was to increase understanding of the implications and factors associated with a Navajo Nation commercial smoke-free policy using the SNBH worldview as its theoretical framework.

### METHODS

Data were drawn from the National Institutes of Health funded 'Networks Among Tribal Organizations for Clean Air Policies' (NATO CAP) aimed to inform commercial tobacco smoke-free policy in Navajo Nation. NATO CAP is one of seven National Cancer Institute State and Community Tobacco Control Research Initiative projects. Broadly, NATO CAP aims to assess factors that affect Navajo Nation decision-making regarding adoption and implementation of policies that decrease exposure to commercial tobacco smoke. The pilot project described here laid the foundation for examining the issue of tobacco control in Navajo Nation using a community-based participatory research approach in which Diné people and perspective are central.

Three focus groups (N=27) were conducted in three Diné communities representing different geopolitical areas of the Navajo Nation. A total of nine evidenced-based messages representing three SHS thematic categories were developed and included the (1) economic impact of commercial tobacco smoke-free environments, (2) health effects of commercial tobacco SHS and (3) balancing economic and health effects of commercial tobacco. Discussion focused on message appeal, influence and potential negative impact of the message. At this stage of the research partnership, Navajo methods for knowing and worldviews such as SNBH were not yet prioritised. Thus, research questions and design were developed using a western approach.

### Recruitment and analysis

Diné researchers aimed to recruit individuals with various perspectives on commercial smoke-free policies: supportive, non-

supportive or undecided. Diné researchers engaged values of *k'é* (ie, personal conduct, kinship and solidarity) through practice of *k'ei*, which informs people on how they relate and interact through kinship clans.<sup>33</sup> Participants spoke in Navajo and English. Audio recordings were transcribed by bilingual Diné researchers and merged with handwritten notes.

Analysis occurred in two waves. First, research team members used thematic matrix analysis to organise major themes encountered for each message.<sup>34</sup> Through a process of consensus, researchers compared and discussed their individual matrices, and identified and agreed on major patterns encountered within each question and by overall thematic category. Researchers then used the DPI framework for understanding commercial tobacco-free policy through SNBH. Over a series of face-to-face meetings, this same team continually discussed the categorisation of the data and emergent patterns, and identified quotes that best illustrated the thematic categories of family, environment, economics and ethics.

## RESULTS

This section describes the attitudes regarding commercial tobacco-free policy based on hearing the nine evidence-based messages, and patterns encountered in conventional qualitative and Indigenous-centred analysis of the four culturally grounded themes of family, environment, economics and ethics.

### Participants

Most participants identified themselves in the Diné language through practice of *k'ei*. Participants were largely women and equally distributed among young, middle and older age ranges. Participants were primarily self-reported citizens of the Navajo Nation. A small number of participants described living off the reservation for many years. Half of all participants were Navajo Nation government employees, with representation from social services, a tribal youth programme, a water resources department and two Navajo chapter houses. Diné College students were also represented in each of the three sessions and accounted for 15% of all participants. Although we attempted to recruit an equal number of smoker and non-smoker participants, our sample was predominately non-smokers. Our sample of community members is representative of the demographics of the general population of Navajo Nation, including rate of current adult smokers, which is significantly lower compared to other American Indian and Alaskan Native Nations.

### Conventional qualitative analysis

#### Economic impact of smoke-free workplaces

Participants were generally unaware that the state-level smoke-free policies and ordinances did not apply to Navajo Nation. Most assumed smoking was prohibited in Navajo Nation workplaces and businesses and were unaware that Navajo Nation had not passed such policies. Many participants perceived commercial tobacco use to be a personal choice as was choosing to patronise businesses that allowed smoking. Opinions on healthcare costs associated with workplace smoke-free policy were largely unknown among participants, although many wanted to know the tobacco-related healthcare costs associated with smoke-free policy. Many participants described business decisions made based on the size and power of the business. For example, some participants believed larger more powerful businesses will allow smoking if they thought the benefits or profits to be made from such a decision outweighed the costs or contributed to profits. Casinos, bars and restaurants were examples of bigger businesses that could afford costs of not going smoke-free including higher

insurance premiums, high-tech ventilation systems and cleaning costs. Enforcement of such workplace smoke-free policies was considered problematic among many participants.

### Health effects of SHS

Messages related to the detrimental health effects of SHS resonated with most participants. Participants agreed that long-term exposure to commercial tobacco was detrimental to employee and customer health. Yet, many would have preferred to know statistics from Navajo Nation, as one participant said, 'Show me the numbers!'. Many perceived smoking rates to be low among Diné and thought that chronic disease was a more pressing issue. Youth who had travelled and lived off reservation perceived filtration systems to effectively filter impurities from air, although other young people with children were adamant about not exposing their children to smokers' homes and businesses regardless of a filtering system. SHS was considered a broader issue of clean air policy issue. Yet, many were unsure of the political will to regulate and jurisdictional issue of enforcement to enforce smoke-free policy.

### Economic and health effects of SHS

Participants were generally underwhelmed by these statements and were challenged to respond to them. Most participants were generally unaware or dubious of healthcare costs among Navajo citizens and other visitors. They were unsure of how to extract tobacco-related healthcare costs and whether tobacco-related costs trumped costs associated with chronic disease. Data on these issues were perceived as needed. Smoke-free policy was considered by most as beneficial to healthy behaviours and less exposure to SHS.

### Diné-centred analysis

The remaining qualitative analysis focuses on the four areas of SNBH-defined balance: ethics, economics, family and environment.

#### Ethics

Initially, participants expressed that it was a personal choice to work and recreate in environments that allowed commercial tobacco. Yet, participants wanted to enjoy a meal in a casino restaurant or a day out at the rodeo without having to be exposed to SHS. Some participants considered others to be more concerned about getting and keeping a job than the long-term health risks of SHS exposure in their workplace.

I think it's a choice, individually, when we're hired to certain workplaces and they have different policies and ethics to abide by. And, in a real tobacco-free work place and you are a smoker, it's a choice whether you accept that job or not. If you go to a smoking workplace you have to abide by their policies. I'm sure the people that work at a casino have those applied to them. It's the public [customers] that have a choice whether to be in the smoke or not.

Participants noted how individual values shifted depending on the environment. Environments such as casinos and bars were viewed as 'open to anyone' and may not be in line with cultural values. Specifically, participants described how in these environments behaviours such as smoking cigarettes and alcohol consumption are socially acceptable. Participants thought people's behaviour changed in casinos and people were more likely to smoke and drink, or permit behaviours they would not normally engage inside other businesses or environments.

## Family

Participants described the teachings of *k'é* as protective and promotive of living smoke-free, and described them as reinforcing mutual respect among family and discouraging of commercial tobacco smoking, especially in the presence of elders. The majority said the dangers of smoking were 'common sense', which was a cultural way of saying traditional family teachings reinforce healthy behaviour and living in harmony. Many middle-aged and older participants observed their parents or grandparents smoking in their own youth, and felt these elders were unable to explain to youth why they should not take up smoking.

Involved parenting and a family environment that promotes cultural teachings were described by some participants to be more effective in discouraging smoking compared with mainstream smoke-free education and policy. One young male participant explained how Diné people are 'bombarded with prevention education about the dangers of smoking'. He considered these messages ineffective because 'cultural teaching and family teachings is where education begins'. Middle-aged participants echoed this message, as one woman stated, 'Cultural values teach you what is good and bad for you'. Others described a possible shift away from cultural teachings that promote mutual respect for others' clean air space. Two older participants described their concerns here:

Young people aren't getting the teachings. We may be past the time when grandmother says, 'Don't do that,' and they say, 'Why?' and don't get an explanation. They don't explain it!

Kids today don't understand old teaching, they just don't want to go by the teachings, and they have their own choices and do what they want to do.

One youth disagreed and suggested how today's youth might find cultural teaching elsewhere if not taught at home:

I believe people are still practicing the Navajo culture. I know, because I go to Diné College where I see people who are successful and practice the culture. I think even in high school and elementary they do have the Navajo teachings there; they have a club where they practice Navajo culture. I don't think we completely forgot about the culture. We do know our culture and think it helps us and we do fall back on that. So, I don't think it's the fact that we totally just forgot about our cultural teachings, but I think we do define our way of life by our cultural ways.

Others talked about respect and the role of grandparents in helping to protect against SHS exposure or prevent youth from smoking:

On reservation, grandparents would hit you on the head if they saw you smoking. So, if you were in that community, you wouldn't do that. It's like a form of respect in the Navajo way.

It's a respect thing. It's the fact of respecting not to smoke inside and the kids are aware of that. They are raised that way around here, but to a certain extent. Just being respectful that's all, it's getting rare and rare but kids were raised that way.

## Environment

The majority of participants thought the Navajo Nation already had a comprehensive smoking ban as they described many Diné government institutions and organisations to behave in accordance with state smoke-free laws. For example, participants observed smokers smoking outside and away from buildings, and others described seeing makeshift 'No Smoking' signs posted inside chapter houses and in some restaurants.

Participants employed in schools, child centres and other youth-oriented programmes described how the type of funding they received and their focus on youth prohibited employees from smoking in the workplace. For some participants, these behaviours were considered to be generational, as this older participant describes here:

Everyone who might be under twenty has been conditioned socially from the outside, when the state passed its law. Younger people are used to that. It won't be hard to put that rule in place—to prohibit smoking in work places and public areas. So, [for] the younger people it would be good, and for the older ones maybe you would need to educate them more on the issue.

For some participants, smoke-free policy was indicative of larger clean air policy issues.

I hope that whatever regulations that are enforced from this discussion, from smoking, I hope it's a catalyst for like regulation for clean air, in general, because there are lots of chemicals when you burn trash. And I hope there are regulations for the (toxic) air produced from the power plants. A lot of people do not talk about how much Navajo people are affected by the dirty air. We have a high population of people with asthma. I use to be one of them I had a lot of problem as a kid with asthma. I hope this policy will have a snowball effect to other issues.

Many participants had concerns that existing federal, state and tribal clean air protection laws and air quality regulatory codes were either non-existent or not enforced on Navajo Nation. Some believed the main question posed by the public regarding a smoke-free policy would be, 'Whose job is it to enforce and to clean up?'. One person thought it was important to identify all entities who could collaborate on policy enforcement in order for it to work.

## Economics

Smoke-free policy was considered, for some participants, to be applied differently depending on the type and size of the business. Casinos and bars were thought to be exempt from smoke-free laws, while chapter houses and schools would have to comply. Participants suggested environments like casinos were motivated by profit, as one older participant suggested, 'The power of the mighty dollar, if smoking will make you money or save you money you will allow it'. This sentiment was echoed in respect to casinos:

It's all about the money! If they (casinos) think smoking will generate money then they allow smoking.

Some participants articulated the inconsistencies in prioritising public health over economic development of the Navajo Nation:

I think the boundary between economic and health, it leans toward economics. Tobacco lobbyist are so powerful, it's part of Congress. If you follow the money trail, it will go to Congress. If you follow the money here, it'd be trailed to Window Rock (Navajo political leaders). Yea, we have all our own moral opinions and how things should be, but when it comes down, it's money.

Others linked the issue of larger environmental health trade-offs currently in play within Navajo Nation:

The motivation for profit and public health leans toward economics and profit. Why would you have stores with candy and junk and we wouldn't be selling tobacco? If public health was a big concern, then why are we (Navajo Nation) talking about leasing agreements for oil, gas, uranium, and coal mines on the Navajo Nation?

## DISCUSSION

Our data were consistent with the smoke-free policy analysis conducted by DPI and confirmed that the external forces of economics and ethics create disruptions to SNBH. Conventional analysis methods have been known to fragment narratives shared by participants and disrupt connectivity of stories.<sup>35</sup> Although the approach suggested Diné people were overall supportive of smoke-free policies, SNBH illuminated how traditional Diné teachings and protocols actually shape Diné perspectives on SHS and smoke-free policy, and how these teachings have been challenged or maintained within Diné culture. This was evidenced by descriptions of the relationship between SNBH principles and the negative impact of commercial tobacco and lack of smoke-free policy.<sup>33 36</sup> First, we believe that this is due to SNBH's more holistic approach to analysis. Second, we found that Diné people overwhelmingly identified *k'é* as a protector and a promoter of smoke-free living. Participants referenced *k'é* principles to allude to the expectation of respecting relatives and having regard for their well-being, and how exposing others to SHS violates those principles. Third, we learnt that Diné are deeply concerned about the loss of traditional knowledge and protocols that protect against smoking, and how differential experiences with colonialism among Diné generations tie into opinions they have on the loss of those cultural protective factors. Blaming others for enabling loss of cultural teachings was a way older and younger Diné participants were coping with the perception of that loss. Diné participants understood the dangers of commercial tobacco and SHS to be outside the protocols observed and maintained through the Diné worldview of SNBH. Fourth, we observed how Diné people broadly identified sources of imbalance or disruptions to SNBH when discussing impacts of smoke-free policies. Participants struggled with agendas set in motion by Diné elected officials that prioritised economic gain over the collective people's health, particularly gaming facilities that allowed indoor smoking. Casinos were considered a place where cultural teachings are weakened.

We identified two responses that did not fit into the SNBH paradigm—one was the desire of a few participants to see scientific data and statistics illustrating the economic impact of SHS for Navajo Nation, and the other stemmed from concerns about smoke-free policy enforcement from a federal policy perspective where police officers patrol and enforce codified social norms. From a Diné standpoint, the Diné culture has a rich construction of teachings and knowledge, some predating the creation of human beings, that guides healthy behaviour and ethical decision-making.<sup>37</sup> Creation stories and traditional teachings already provide holistic cultural evidence regarding the harms deriving from smoking and SHS behaviours, and does not require additional validation from Western science to substantiate the harms, which further stresses the importance of intergenerational sharing of this traditional knowledge.<sup>1 2</sup> Regarding enforcement concerns, grandparents and elders have the cultural authority to correct the misbehaviours of younger people in their community, according to Diné participants, and can enforce principles of *k'é* to maintain social order. Nonetheless, enforcement is an important issue to consider in the discussion around smoke-free policies, and Diné communities must find ways to work with egregiously understaffed Navajo Nation law enforcement departments to implement culturally appropriate community policing strategies that embody cultural norms and values, and uphold self-determination.<sup>38 39</sup>

## Implications for future research

Few studies exploring Indigenous opinions on smoke-free policies exist. However, these studies do not use an Indigenous paradigm to examine data. In British Columbia, First Nations women were conflicted about the idea of a smoke-free bingo hall. Like the Diné, some felt a smoke-free environment would lead to the loss of bingo profit which benefitted the community, while others viewed it as a necessary measure to protect the young children from SHS exposure.<sup>40</sup> Elders were identified as the most important allies in establishing smoke-free norms for First Nations families and communities.<sup>41</sup> Maori policymakers in New Zealand believed it crucial to develop legislative approaches that met the needs of all groups in a population, taking into account the specific social, political, historical and cultural differences for Maori.<sup>42</sup> Among studies with larger survey samples, tribal members in Montana supported smoke-free policies for multiunit housing and First Nations members overwhelmingly supported smoke-free environments at schools, community events, entrance ways, sporting events and bingo halls.<sup>41 43</sup> While results from these studies draw some parallels to findings from our pilot project, analysis of the data using an Indigenous paradigm appropriate for those groups may have promoted deeper associations with core cultural values, principles and aspirations.<sup>44</sup>

To the best of our knowledge, this is the first study that applied SNBH to commercial tobacco research. Our research offers a Diné perspective on the impact of smoke-free policy tobacco currently being explored in other tribal tobacco control efforts.<sup>14 45–47</sup> Like other studies that have applied Indigenous paradigms to data analysis, SNBH allowed us to observe other nuanced conceptions of health and well-being that Diné people felt were integral to the overall discussion of smoke-free policies, and recognise the importance of identifying sources of imbalance that should be addressed in the larger scheme of public health on Navajo Nation.<sup>48 49</sup>

## Implications for public health policy

This study provides two primary implications for public health policy and research, including (1) confirmation of the likely cultural and traditional practices that exist within an Indigenous group that serve to prevent and protect that society from disease and illness and (2) by understanding and respecting the Indigenous group's conceptualisations of health and wellness, researchers and policymakers are more likely to identify what people find most valuable to them to better address health issues of concern. Based on our experience and research findings, we encourage the full integration of Indigenous worldviews and research approaches to make meaning of complex health issues faced by Indigenous communities.<sup>5</sup> Such approaches increase the likelihood of identifying protective factors embedded in cultural teachings and protocols, which have contributed to the survival of Indigenous communities worldwide.<sup>3 4</sup> By ignoring Indigenous worldviews and research approaches, we risk misunderstanding and, thus, misapplying public health interventions and policies, which may exacerbate the health issue of concern.<sup>7</sup>

## Limitations

This study is not generalisable to all Diné people because SNBH is not a belief held by all. As a pilot study, only a small sample of participants who were largely non-smokers participated. Tribal human participant review process and the timing of the collaborative analysis approach among Indigenous and

non-Indigenous researchers made it only possible to apply the Diné-centred approach during the recruitment, data collection, analysis and interpretation phases of the research process.

## CONCLUSION

Indigenous approaches to research are essential to inform public health policy and improve health outcomes among American Indian populations. SNBH provided the necessary framework to deepen our understanding of Diné cultural perspectives on the economics and health effects of smoke-free policy on the Navajo Nation. Through this process, we uncovered unique cultural understandings that were not attained through conventional western approaches to qualitative research. We confirmed the previous Diné-centred policy analysis of the impact of smoke-free policy within the four areas of balance (eg, ethics, economics, family and environment), which are found to be vital in protecting the well-being of the Diné people.

### What this paper adds

Indigenous methodologies illuminate cultural and traditional practices protective of smoke-free life and can inform culturally relevant smoke-free policies.

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