

# Actualizing Cultural Humility: An Exploratory Study of Veterinary Students' Participation in a Northern Community Health Rotation

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## ABSTRACT

Rotations in diverse, marginalized communities may offer health care students opportunities to develop cultural humility through different clinical experiences and activities. Through the actualization of cultural humility, veterinarians may offer accessible, affordable, culturally proficient, high-quality care to all their patients with a better understanding of how cultural differences affect the animal patient's health, well-being, and care. The purpose of this study was to explore whether participation in a community rotation in remote northern Indigenous communities promotes cultural humility among final-year veterinary students. Small groups of University of Calgary veterinary students travel annually to the Sahtu Settlement Area of the Northwest Territories, Canada, to participate in the Northern Community Health Rotation (NCHR). During the 4-week rotation, students spend 2.5 weeks providing veterinary services to domestic animals in five communities in the Sahtu. Eleven veterinary students who attended the NCHR between 2015 and 2020 answered exploratory open-ended questions in an online survey. Responses highlight areas of learning that contributed to their development of cultural humility. The rotation appears successful in increasing students' confidence working with people from diverse cultures, offering students opportunities to implement a client-centered approach, and advancing their capacity to recognize and challenge their preconceived biases about Indigenous cultures and animal ownership. These experiences are important to the acquisition of cultural humility for veterinary care providers.

**Key words:** Indigenous communities, communities in need, service learning, cultural competency

## INTRODUCTION

Increasingly, health care curricula are offering students more opportunities to gain a better understanding of diversity, inclusion, and cultural humility. Cultural humility is defined as “a lifelong commitment to self-evaluation and critique, to redressing the power imbalances in the physician–patient dynamic, and to developing mutually beneficial and nonpaternalistic partnerships with communities on behalf of individuals and defined populations.”<sup>1(p.123)</sup> This concept was introduced more than 20 years ago to highlight the need to address health disparities and inequities in medicine. Since that time, concerns about cultural humility have been taken up by public health, social work, education, and, more recently, veterinary medicine.<sup>2,3</sup>

Veterinary medicine has been referred to as the whitest profession, given the racial homogeneity of this occupation compared with other professions such as dentistry and medicine.<sup>4,5</sup> Concern about inclusion, diversity, and equity in the profession is receiving greater attention—for example, the American Veterinary Medical Association (AVMA) has mandated that veterinary colleges must cultivate diversity through the recruitment and retention of faculty and students.<sup>6</sup> Similar approaches are also being proposed in Canadian veterinary colleges, as evidenced by the WIDE (wellness, inclusion, diversity and equity) Task Force recently introduced at the University of Calgary. Depending on the educational background of students admitted to veterinary schools, many may have limited to no experience or exposure to issues related to cultural diversity and humility. Strategies to promote diversity, inclusion, and equity among faculty and students are now becoming more evident in veterinary colleges in the US and Canada.<sup>2</sup>

Actualizing cultural humility is vital to gain a better understanding of cultures and groups that are different from our

own and helps us to appreciate each other's unique cultural experiences. It is also compatible with the paradigm shift from a more veterinarian-centered approach to a more client-centered, collaborative relationship that is inviting and safe for all clients.<sup>7</sup> While veterinarians are trained to treat non-human patients, they are somewhat reliant on animal owners to make decisions in the best interests of their patients. Veterinarians must interact and learn from clients in an effort to understand how cultural differences affect the health, well-being, and care of the animal patient.<sup>2</sup> Through the actualization of cultural humility, veterinarians are better able to offer accessible, affordable, culturally proficient, high-quality care to all of their patients.

Instead of the customary goal of cultural competence, cultural humility implies that there is a continuous dedication to understanding how culture influences one's life.<sup>7</sup> It requires health care professionals to suspend assumptions and judgments about individuals or groups and examine where internal biases come from in order to provide satisfactory care. While cultural competence involves cultural awareness of self and others, it is more skill-based and, unlike cultural humility, does not reflect a power-cognizant relationship approach to cultural differences.<sup>8</sup> While research has examined how clinical experiences can improve cultural competence, very few articles have explored how these experiences may engage students and support the development of cultural humility.<sup>9</sup>

Community rotations, rotations in developing countries, and service-learning experiences are part of veterinary and medical programs in many countries. These experiences occur in diverse, marginalized communities and communities in need and can offer students opportunities to develop cultural humility through different types of clinical experiences and preparatory activities. Preparatory activities prior to participating in clinical rotations

vary across programs in terms of content and length. They can include in-class lectures, coursework, podcasts, and videos about cultural humility; ethical practice and relationship building; and discussions about students' roles and expectations on rotation,<sup>10-12</sup> as well as in-person work where students practice communication skills in simulated scenarios<sup>13</sup> and hear from members of the community in need, such as a First Nation Elder.<sup>10</sup> Both the preparatory and lived experiences provide students opportunities to deconstruct stereotypes, improve confidence in communication, and bring awareness to implicit biases.<sup>11-17</sup>

The benefits of student service-learning experiences in Indigenous communities have been examined in some professional programs, such as physical therapy and dentistry<sup>10,18</sup>; however, few studies have examined veterinary care in Indigenous communities and how such rotations may benefit veterinary students' development of cultural awareness and/or humility. The purpose of this study was to explore whether participation in a clinical rotation in remote northern Indigenous communities in Canada promoted cultural humility among veterinary students.

## METHODS

### The Setting

The Sahtu Settlement Area (the Sahtu) in the Northwest Territories (NWT), Canada, a Dene and Métis land claim area established in 1994, consists of five permanent communities (Norman Wells, Tulita, Déljine, Colville Lake, and Fort Good Hope) and is inhabited by approximately 2,500 people.<sup>19,20</sup> Sahtu residents are 72% Indigenous and 28% non-Indigenous, and many uphold traditional activities such as trapping, fishing, and hunting as means of income, food supply, and culture.<sup>20</sup> The land varies from boreal forest to subarctic plains and tundra to mountains.<sup>19</sup> Temperatures range from > +25 °C in the summer to < -50 °C in the winter.

The Sahtu communities can only be accessed via airplane and boat in the summer and ice roads and airplanes in the winter. Due to this remoteness, these communities also experience extremely high costs of living, which are at least 162% higher than in Edmonton, Alberta.<sup>20</sup> Many families cannot afford to meet their basic needs due to low income, high unemployment, and exceptionally high costs of living. Access to veterinary services for animals is also extremely limited. The only permanent veterinary clinics in the NWT are in the capital city of Yellowknife, requiring NWT residents to transport their animals, often at great cost, to Yellowknife to access care.<sup>21</sup> It is not uncommon to see free-roaming dogs in these communities; however, most of these dogs have owners and are not considered strays.<sup>a</sup>

### The Northern Community Health Rotation

Each February since 2008, a small group of veterinary students from the University of Calgary Faculty of Veterinary Medicine (UCVM) travel with two to three veterinarians and one or two registered veterinary technologists to the Sahtu to participate in the Northern Community Health Rotation (NCHR). The rotation began as a 2-week rotation with only two students, but because of high demand for vet services and to provide time for improved student preparation, it has transitioned to a 4-week rotation in 2015 and has hosted four students per rotation since 2017. The program is funded through cash and material donations by a combination of university, veterinary pharmaceutical, and individual, corporate, and government partners in the Canadian North, as well as substantial in-kind support from local businesses and the communities for accommodation, food, and clinic space.

The rotation starts with 1 week of orientation, which includes both in-classroom training with lectures and videos and in-person training through discussions with First Nations colleagues and rotation stakeholders. First, there is a 3-day in-classroom orientation in Calgary at UCVM that includes developing an understanding of the broader history of colonization in Canada, the cultural and historical context of veterinary care and the relationship with animals in remote Indigenous communities, and the determinants of animal health in different settings. Best veterinary practices for remote clinical settings are also reviewed, such as medical, surgical, and anesthetic protocols. Over the next few days, meetings with rotation stakeholders, such as the local Society for the Prevention of Cruelty to Animals (SPCA) and government officials involved with animal and human health and welfare in the Sahtu communities, occur in Yellowknife, NWT, and provide further context for the setting in which the rotation runs.<sup>22</sup>

Following the orientation, the students then spend 2.5 weeks providing veterinary services to the five Sahtu communities before returning home and presenting their experience to the UCVM community. The goals of this rotation are to offer veterinary students the opportunities to do the following: (a) experience veterinary practice in remote and culturally different settings in the Canadian North; (b) understand the interactions between animal and public health in isolated communities of the Sahtu Settlement Region, NWT; (c) apply communication skills in communities and schools to advance animal and human health; and (d) deliver elective surgeries, wellness exams, deworming, and vaccinations in remote communities. Students interact with public health officials, government biologists, and community members while working in a team environment to provide veterinary care to the five Sahtu communities. Students also engage with local hunters and trappers to learn more about the role of wildlife health and the land.<sup>22</sup>

The rotation team spends 1-3 days in each community. After flying into Norman Wells, the team drives between each of the other communities. This involves 2-9 hours of driving on winter roads to provide veterinary services to each of the Sahtu communities. A typical day on this rotation involves house calls, surgery, in-clinic appointments, and youth outreach. Students engage in many activities, including wellness exams, surgeries, admissions, scheduling, and classroom presentations to youth in the schools. The days are typically long (10 hours or more), but if unexpected emergencies arise, they can be even longer. Clinics are held in the local schools, community halls, and, in one case, the government wildlife lab. Community youth volunteer at the clinics, providing them the opportunity to learn more about animal health and potential careers in health sciences. Veterinary students are able to learn about the local culture and history through their interactions with teachers, youth, and clients, by planned and opportunistic participation in community and school events, and through informal home visits. Please refer to Appendix 1 for an overview of the NCHR.

### Data Collection

The data for this article come from a larger study in which all veterinary students, veterinarians, veterinary technicians, and community liaisons who participated in the UCVM NCHR between 2015 and 2021 were invited to do online interviews. The discussion in this article is limited to the veterinary students who participated in the NCHR between 2015 and 2020. Ethics approval was obtained for all project activities from the University of Calgary Conjoint Faculties Research Ethics Board (REB20-1981).

The experiences of the veterinary students were captured via exploratory online, asynchronous interviews (see Appendix 2). Participants received an initial information letter that outlined the purpose of the study and were informed that their decision to complete or partially complete the online interview was indication of their consent to participate in the study. The interviews included open-ended questions so that participants could describe their experiences on the rotation in their own words. Participants typed their responses to the open-ended questions into the document that they then submitted online. They were asked questions organized around two main themes: (a) their preparation and expectations before they participated in the NCHR (e.g., their prior experience with remote Indigenous and/or remote northern communities, their biggest concerns or worries, their expectations of delivering veterinary care to Indigenous communities, and whether/how this changed from participating in the NCHR); and (b) their experiences during the NCHR (e.g., the most fulfilling experiences personally and professionally, the most stressful and/or difficult experiences and how they coped, how the NCHR may promote awareness and acceptance of veterinary medicine in culturally different settings, how their NCHR experiences influenced their development as a veterinarian).

### Data Analysis

The interviews were analyzed using a directed content analysis approach.<sup>23</sup> In carrying out this analysis, the concepts of cultural humility and/or cultural awareness, which were drawn from the literature, informed the analysis. The lead author began the analysis by reading all interviews holistically to become familiar with their content. An initial categorization process was done using detailed reading of the interviews then selecting revealing statements that aligned with the concepts of culture, cultural humility, and/or awareness.<sup>23</sup> After individual analysis of each interview separately, common themes and patterns were identified and clustered into concrete ideas and observations regarding the development of cultural humility.<sup>24</sup> The list of themes was reviewed by the three other coauthors who are part of the larger research project. Consensus on the themes was achieved to ensure credibility and dependability of the data analysis.

## RESULTS

We invited all 20 students (now veterinarians) who completed the NCHR between 2015 and 2020 to participate in our online survey. All 20 students were women, and 11 of the 20 responded to the online interview.<sup>b</sup> The interview responses highlighted several areas of learning that contributed to participants' development of cultural humility. Their learning experiences can be categorized into three main stages: (a) recognizing cultural differences and biases through the orientation and preparation they received prior to the rotation, (b) being fully immersed and building community relationships through the activities they participated in during the rotation, and (c) actualizing cultural humility as evidenced by gaining confidence, fostering a client-centered approach, and challenging preconceived biases upon completion of the NCHR.

### Recognizing Cultural Differences and Biases

The majority of interviewees shared positive reflections about the content and type of orientation and preparation that took place before they left for the North. Many felt the rotation orientation and preparation was an essential element in their learning about cultural humility and awareness related to Indigenous

Peoples and their communities. It helped them to recognize cultural differences and identify their own personal biases. Several participants described how the orientation furthered their knowledge and respect of Indigenous culture and history. Specifically, participant 11 noted, "I also felt that the education I received about Indigenous culture, history, and expectations prior to the trip was incredibly helpful, and also helped me build a newfound respect and honor for the Indigenous Peoples and their communities." Participants also gave examples of specific activities during the orientation that they felt contributed to their recognition and understanding of cultural differences, such as the documentary on reservation dogs<sup>c</sup> and the blanket exercise.<sup>d</sup> Another made specific note that the orientation materials "are as important as the trip itself" (participant 9).

While those interviewed reflected positively on the preparation they received for the rotation, several also offered suggestions to improve ways of recognizing cultural differences and personal biases for future students. Their suggestions focused on raising awareness about the current affairs relevant to northern communities and more about Indigenous history and culture, while others offered specific ideas for activities that might help develop students' cultural awareness. Specifically, half the participants mentioned that they would like to know more about the current politics of each community they would be visiting. One person suggested that "it is so important that participants are well aware of the tension and conflict between the government and Indigenous communities" (participant 11). Another suggested that "perhaps some recommended readings or suggested films to watch on the history of residential schools and colonialism in Canada (especially for those participants who, like me, did not grow up in Canada)" would be useful (participant 10).

While most study participants had positive feedback about the cultural aspects of the rotation preparation they received, several suggested that students could learn even more about the culture, language, stories, and traditions of northern Indigenous communities, as well as how to be respectful of the community and its traditions and values. They highlighted the importance of hearing about the history, language, and culture of the communities firsthand from Elders and community members and stressed this information needs to come from the Indigenous people who live in these communities. One participant suggested that having more conversations with community members or Elders, in person or via video chat, could also help build stronger connections between the students and community prior to the rotation. A few mentioned that hearing more from previous NCHR students about their experiences would be beneficial for gaining a better understanding of what to expect going to these communities. In addition, participant 6 thought it would be useful to "practice some 'client interaction' scenarios [in their professional skills curriculum] on ways to approach communication with a client from a culturally different background." These ideas highlight the value the students place on being able to provide culturally competent care to the communities they are visiting.

Overall, participants felt the NCHR orientation and preparation positively contributed to their development of knowledge about Indigenous culture and respect, which is consistent with the concept of cultural humility. They offered specific suggestions to potentially improve cultural awareness for future veterinary students prior to visiting culturally diverse communities. Notably, one person mentioned that "the best way to understand is to witness it yourself and learn from the experiences of those who live within community" (participant 8) as there are some things one cannot learn or understand through classroom



preparation—that just need to be experienced in practice. This statement corresponds well with the next theme that examines students' cultural awareness gained from participating in activities during the NCHR.

### Being Fully Immersed and Building Community Relationships

Certain activities during the NCHR were identified as important elements of the rotation that foster greater cultural humility among veterinary students. Specifically, study participants referred to complete immersion in a different culture and building ties and connections in the community as integral in developing cultural humility. About half of the participants felt that being fully immersed in the remote northern communities helped them develop respect for and awareness of Indigenous cultures and values. When asked to reflect on the ways the NCHR helps promote awareness and acceptance in practicing veterinary medicine in culturally different settings, one person noted,

It is a fully immersive and hands-on experience ... You get to see beautifully functioning and healthy parts of Indigenous communities and culture. We are so often in Calgary only exposed to negative experiences or biased journalism. Experiencing it firsthand you really realize that it is a different culture and you have to work to understand their motivations and history. (Participant 2)

This particular person also highlighted how her negative biases were challenged through the activities and personal connections made during the rotation, which could only be experienced through the deeply immersed experience offered by the NCHR. Others described how the immersive experience allowed them to learn more about the art, food, history, and culture through eating meals, telling stories, and spending time in community members' homes. Participants also mentioned that the long drives to and remoteness of the communities helped them better understand the challenges these communities face in accessing veterinary care. Learning from members of the community themselves about Indigenous historical perspectives regarding dogs was identified as a meaningful way in which students were able to develop skills consistent with cultural humility. Insights such as these suggest that the experience of being immersed into Indigenous communities is necessary to gain a deeper understanding of their values and culture.

Relationships cultivated with community members during the rotation also appeared significant in nurturing cultural humility. Most participants stressed the importance of working with community members and developing strong and respectful one-on-one relationships that helped them gain greater appreciation of the cultures, values, and histories of Indigenous Peoples and their animals. They noted that it was particularly meaningful to spend time learning from different community members and participating in traditional meal sharing. One person wrote that "allowing us to meet with community members from different roles and walks of life helped to expose me as a student to a broad range of perspectives and stakeholder views" (participant 6). Another found that "spending time in the homes of community members, having bannock and sipping tea, eating caribou jerky, and listening to the community members talk about their concerns and fears for themselves, and their children" (participant 11) aided her development of cultural awareness and acceptance. These different personal connections and experiences clearly facilitate students' cultural understanding and awareness of Indigenous perspectives. Both immersion in northern Indigenous communities and building

personal relationships with community members appears critical in enhancing cultural awareness and respect among students in this rotation.

### Actualizing Cultural Humility

Finally, the interview data suggest that the NCHR offers students several different opportunities for actualizing cultural humility that include gaining confidence working with people from diverse cultures, fostering a client-centered approach, and being able to challenge one's own preconceived biases.

One prevalent theme raised in the interviews refers to the confidence students gain from having meaningful interactions while working with people from diverse cultures. For example, the NCHR experience helps students feel more confident in offering inclusive veterinary care to those of different backgrounds and enhances their ability to effectively work with people of different cultures and circumstances while not imposing their own views of animal ownership on their clients. Participant 8 stated that she felt more confident in advocating for the diverse relationships and roles that owners may have with their animals, something that is often misconceived by people who do not interact with Indigenous people and their animals.

Second, everyone mentioned how the NCHR allowed students to appreciate and acquire a client-centered approach to veterinary medicine, which is consistent with the acquisition of cultural humility and respect. The concept of a client-centered or collaborative approach implies a more equal relationship between all parties and a shift in the balance of power away from the service provider and toward a more mutual collaborative partnership.<sup>25–27</sup> For example, participants described how the rotation "emphasized how important it was to try to come from a place of wanting to offer service by seeing what was needed, not by offering what we assumed we were best able to help with" (participant 1). This perspective highlights the importance of approaching veterinary care in such a way that is respectful of the autonomy of clients and their animals. Several also mentioned that the rotation taught them how to work *with* community members and clients in a collaborative manner and to approach clients with an open mind about what *their* needs may be. Many mentions were made in the interviews about respecting Indigenous ways of doing and being, which allowed students to provide a client-centered approach by respecting diverse beliefs, abilities, and concerns for and about their animals, even if they do not align with typical Western beliefs of animal ownership. One person in particular noted that the rotation reminded her to "give people options for care and try not to judge their circumstances" and that she would try to "work with people's abilities (financially and other) ... to come up with a plan for care" (participant 3). These reflections suggest that the NCHR is effective in not only improving students' clinical veterinary skills but also in learning how to respect the culturally different values of each client.

Last, all of the interview participants mentioned how participation in the NCHR challenged their preconceived biases regarding Indigenous communities. One of the prominent concerns before the rotation that was identified in the interviews was how students may be perceived by the Indigenous communities they were visiting. Several participants were worried that community members would not trust them or open up to them. They were worried they "would inadvertently do something to offend someone in the community" (participant 4), and they did not want the community to feel

that the students were imposing their values and beliefs on them. However, throughout the interviews, many commented on how much their initial concerns changed while participating in the NCHR. Many mentioned how welcome and accepted they felt when they arrived in the communities. One noted that she was “overwhelmed by the very open and welcoming attitude of the community members” (participant 6), and several others described how the community’s enthusiasm and interest in their visit put their initial concerns to rest.

Another significant preconceived bias that was challenged through participation in the NCHR related to the idea of animal ownership among rural Indigenous people. Several participants had concerns about how animals would be treated due to prevalent expectations, stigmas, and biases associated with Indigenous animal ownership. One comment reflects these concerns:

[I] was unsure what the relationship between people and their pets would be like within that setting and how our care and suggestions would be received. I also have heard many negative references to Indigenous people during previous rural rotations and growing up in Alberta. Oftentimes people refer to “res dogs” and insinuate that Indigenous people do not care for, or abuse, animals. These perspectives are often biased, damaging, and inaccurate, and it is a shame that that information is propagated within the veterinary community and otherwise. (Participant 8)

Other participants mentioned that through the NCHR, they were able to recognize how much these animals were loved and cared for and specifically explained that they now understood that having a dog live outside is not necessarily negative or harmful to the animal. One person mentioned how her NCHR experience has positively affected her current practice because she is better able to appreciate that different people may have different relationships with their animals, and as a result, she feels she has stronger relationships and trust with her clients. This same person noted that the rotation “improved my technical skills but more importantly really helped my cultural sensitivity and has helped me overcome biases I was not aware I held” (participant 4). Several participants also wrote about how they were able to recognize and challenge their own negative biases about Indigenous cultures by gaining a better understanding of the financial difficulties and systemic challenges these communities face. For example, participant 6 explained that she was able to change her perspectives and recognize that community members often utilized the limited resources they have to provide the best care to their animals, despite the high cost of living and high rates of poverty in these communities. These comments illustrate how students were able to change their negative perspectives on animal care in Indigenous communities and recognize that many Indigenous people deeply care for their animals and do the best they can with the limited resources available to them.

Overall, the benefits of attending the NCHR are consistent with the development of cultural humility. The interviews reveal how students gained confidence in working with people from cultures different from their own, along with how they adopted a more client-centered approach that respects the diverse values that clients may hold. They were able to challenge their own personal biases about how these communities would receive them, along with dismantling negative stereotypes about animal ownership within Indigenous communities. All these experiences are important elements for veterinary care providers’ acquisition of cultural humility.

## DISCUSSION

### Recognizing Cultural Differences and Biases

Previous research has found that there are generally two main methods of orientation and preparation for students’ clinical rotations: orientation meetings and classroom training. The NCHR students mentioned that the interactive, student-centered approach to classroom training was valuable for recognizing cultural differences and biases, consistent with the findings reported in the literature. For example, during the Métis community physical therapy rotation in Saskatchewan, students engage in classroom learning that reviews colonialization in Canada and Indigenous health and history.<sup>10</sup> This is similar to the NCHR students’ descriptions of their pre-trip preparation regarding Indigenous culture and history, which they identified as an informative part of the orientation. Oosman et al.<sup>10</sup> mention that Indigenous documentaries and hands-on cultural experiences are an important part of the preparation for students working in Métis communities. Similar activities were also identified by NCHR students, who suggested that future orientations continue to offer the documentaries—such as the one on reservation dogs with the follow-up discussion with the producers—and cultural experiences such as the blanket exercise, which significantly contributed to their understanding of cultural competency.

One major difference between the NCHR and other programs is that in some other programs, students begin learning about Indigenous history and health in the first year of their program,<sup>10</sup> which was not part of the broader formal UCVM curriculum for these students. NCHR students felt their orientation was beneficial but still requested more information about Indigenous communities more broadly as well as about the particular communities they were visiting. Hammond and Runion<sup>2</sup> propose how to develop and implement a 1-week intensive course on equity and diversity in veterinary medicine that may be a helpful strategy for veterinary community rotations to consider. A unique aspect of the NCHR is that practical training in communication skills is a required component of each year of the UCVM curriculum, such that students have completed 3 years of communication skills training prior to participating in the NCHR. This includes simulation activities where students practice communicating with simulated clients facing financial constraints, grief and loss, homelessness, and other real-life situations that they may encounter during their rotation.<sup>13</sup> Though not directly focused on developing cultural humility, this type of classroom preparation can strengthen communication skills and capacities essential for working with culturally diverse individuals and populations.

### Being Fully Immersed and Building Community Relationships

Many participants mentioned that engagement with the community, along with being immersed in the culture, were integral for the promotion of cultural awareness and respect. They described the impact of having conversations, sharing meals, and learning from and sharing their own personal interactions with Indigenous members of the northern communities. They felt that being fully immersed in the Indigenous culture of the North functioned to enhance their respect and admiration for Indigenous traditions and values. This aligns with other research on Indigenous community health rotations that highlights how these experiences also facilitate client-centered care.<sup>10</sup> NCHR students felt that engaging with the community and participating in cultural activities is necessary for the development of cultural humility. In much of the research on international service-learning trips, being immersed in a new culture allows students to gain



appreciation for diversity and understand how they can work in a culturally sensitive manner.<sup>10,11,28</sup>

In other community rotations, veterinary and medical students are often exposed to a variety of different activities that support their learning and development of cultural humility such as debriefing, structured self-reflection, and engagement with community members.<sup>7,10</sup> Although informal debriefing occurs throughout the rotation in several different forms (e.g., during dinner discussions, during the extended travel time on winter roads, en route to and from house calls, etc.), this was not explicitly identified as debriefing in the participants' responses. Formal debriefing can benefit students' actualization of cultural humility by inviting them to address their own personal biases that may affect how they interact with culturally diverse clients or patients.<sup>7,11</sup> Different debriefing strategies exist, including the teacher–learner style that emphasizes open-ended questions, reflective listening, and empathy to strengthen students' cultural competencies.<sup>7</sup> Debriefing models specifically for learning cultural humility have been developed in other fields, such as nursing,<sup>29</sup> and may provide a foundation for similar approaches in veterinary medicine.

Similarly, another important activity for promoting cultural awareness is self-reflective journaling, as illustrated in physical therapy rotations in Indigenous communities, other international service-learning trips, and diversity and inclusion courses.<sup>2,10,17,30</sup> Structured self-reflection can also help students explore preconceived biases more deeply and apply critical thinking skills related to the development of cultural humility to challenge these beliefs.<sup>10</sup>

### Actualizing Cultural Humility

One of the most important findings of this study is the variety of ways the NCHR encourages students' actualization of cultural humility through various orientation, preparation, and rotation activities. The rotation appears successful in increasing students' confidence in working with people from diverse cultures, offering students opportunities to implement a client-centered approach, and advancing their capacity to recognize and challenge their preconceived biases about Indigenous cultures and animal ownership. Similar experiences are reported in other studies on community rotations involving homeless populations and Indigenous communities, as well as in developing countries.<sup>12–14,30</sup>

It appears that service-learning trips are an important element of the veterinary curriculum, giving students the exposure, immersion, and confidence needed to develop cultural humility. NCHR participants reported that they built personal relationships with the community and its members, allowing them to increase their knowledge about Indigenous ways of doing and being. Students were then able to challenge their own negative perceptions about animal ownership and Indigenous values in these communities, increase their confidence in working with culturally different groups, and apply a client-centered approach. This is a first step to informing culturally safe care that respects the autonomy and values of Indigenous people. The NCHR experience can be categorized as transformational learning in which students are able to change problematic assumptions, beliefs, and mind-sets, followed by developing and implementing new behaviors that align with their changed perspectives.<sup>10</sup> Reflecting on students' expectations prior to the rotation and what they actually experienced during the NCHR highlights the value of offering students the opportunity to collaborate with culturally diverse communities and communities in need. The changes in perceptions, confidence, and abilities that students identified in this study and others provide evidence that

meaningful transformations take place during these practicums that support the development of culturally humble and aware professionals.

### Promoting Cultural Humility in Veterinary Students

Veterinary care is improved when veterinarians integrate cultural humility into their interactions with each client.<sup>2,7</sup> However, this type of self-awareness is not broadly taught in veterinary colleges (however, see Hammond and Runion<sup>2</sup>), and veterinary students may not have had exposure to it in other aspects of their lives. In addition, the veterinary profession in North America is one of the least culturally diverse and yet serves a multicultural client base. There is recognition within the profession that there is work to do with regard to equity, diversity, and inclusion (EDI), as evidenced by committees at multiple levels of the profession's organizations, including the Canadian Veterinary Medical Association's Diversity and Inclusion Working Group, the Alberta Veterinary Medical Association's EDI Advisory Committee, and UCVM's WIDE Task Force. At UCVM, there are few experiences like the NCHR that foster a client-centered approach and expose students to different cultural and personal relationships with animals. Thus, more opportunities in the veterinary curriculum are needed to help students recognize their own biases and graduate clinicians who can be more collaborative and thoughtful members of their communities and profession.

An important and unique strength of the NCHR is that the veterinary team is relatively small; it does not overwhelm the host community, and at the same time, participants can realize personal connections and meaningful experiences with community members. These experiences are made more intense by the fact that the rotation is completely immersive. The veterinary team grows close in their interactions with each other as they live and breathe the experience for 2.5 weeks. Close personal connections are made with community members as students examine their animals, address health concerns they have about their beloved animals, and hear stories about what great hunting partners they are or how their dog loves to greet their children outside the school to escort them home. What ensures the program is safe for all involved and allows the program to be so successful is its longevity (15 years) and the high degree of commitment from community leaders, the NWT government, and the NCHR veterinary program leaders in establishing a trusting and respectful long-term relationship with community members. The program continually ensures that the services offered are needed and desired by the communities by regularly checking in with local government, stakeholders, and community liaisons. Community members voluntarily access services while the team is in the community, and the veterinary team is well briefed about offering services with a no-pressure approach. Discussions occur between the veterinary team and the clients about the services available and the benefits and risks associated with them. Clients then decide what they would like to pursue for their animal with no pressure from the veterinary team. Clients are assured that the team will return the following year, and they will have the same opportunity to access services then if they decline them this time. This trust and respect among all parties is illustrated through annual invitations back to the community and the high percentage of repeat clients and animals seen from year to year,<sup>31</sup> and they are why NCHR students felt so welcomed by the communities.

Unfortunately, it is not practical nor financially feasible to replicate this intense immersive experience for all veterinary students in the UCVM program or in all veterinary programs.

This leaves veterinary curricula developers with the challenge of developing learning experiences that provide veterinary students with opportunities to develop cultural humility in a meaningful and lasting way, while recognizing that such opportunities in remote, rural, and/or Indigenous health care delivery largely remain “infrequent, opportunistic, and ad hoc.”<sup>32(p.171)</sup> We suggest that cultural humility learning begins early in the curriculum and includes developing meaningful relationships with groups that are marginalized and often stereotyped. By starting early in the curriculum, students can develop cultural humility and confidence that will benefit them more broadly across all of their final-year rotations. This approach may be of particular relevance in other rotation settings (e.g., rural) where study participants suggested strong biases against Indigenous clients were also encountered. To address this challenge, UCVM is in the early stages of developing a new program that will build on a relationship with a local First Nation to create collaborative experiences and that has veterinary students interacting with, learning from, and developing meaningful relationships with First Nation partners throughout each year of their Doctor of Veterinary Medicine curriculum while at the same time providing benefits around animal care for the First Nation. We anticipate that such experiences will allow more students to actualize cultural humility throughout their training and for students entering their final-year clinical rotations to feel more prepared to serve a greater diversity of clientele.

### Limitations

While we have learned a lot about how students’ cultural humility may benefit from community service rotations, we have also identified some factors to consider in future studies. First, the fact that students self-select for this rotation may reflect that the students who have attended the NCHR already had an interest in Indigenous culture and northern communities. This self-selection, however, may not necessarily diminish the results, as cultural humility has no final capacity; rather, it is something that can always be strengthened. Second, only half of the NCHR students contacted participated in this study. It is not clear whether the experiences and opinions of the students who completed the interviews reflect those of all students who complete the NCHR. Third, study participants completed the rotation between 2015 and 2020 but were not surveyed until 2021. This timeline could affect some students’ ability to accurately recall information and experiences from the rotation. However, research suggests several factors that may enhance the accuracy of recall that may apply to our study: (a) memories are more accurate if they involve significant emotional events as emotional involvement extends the accuracy of retrieval; (b) “positive events are more rich in sensory detail from a retrospective perspective,”<sup>33(p.307)</sup> whereas unpleasant events are more subject to selective forgetting; (c) events experienced for the first time and are highly relevant to the individual are remembered particularly well; and (d) we asked participants about their subjective experiences of participating in the NCHR rather than information about objective facts. We also used several strategies to enhance participant recall, such as asking participants to identify specific examples and events, which act as retrieval cues, and by asking slightly different questions about the same event. In addition, it should be noted that each year, students are asked to complete a rotation evaluation after the rotation is finished. Comments in these evaluations support the pattern of findings reported in this article. Students regularly comment on the profound impact the rotation has had on them (i.e., in recognizing their own biases, opening their eyes to new

cultures and experiences, and practicing their communication skills in significantly different settings) and how they will take the lessons learned into practice with them. Ideally, we would like to survey students before and after participating in the rotation, but the cohorts include only four students a year, offering a very limited perspective on the NCHR experience on its own. The retrospective data presented here offer valuable insights into the experiences of six cohorts of students and their long-term effects on their current veterinary practices.

A final limitation is that we did not formally assess students’ cultural humility before, during, or after their participation in the NCHR. We are therefore relying on participants’ post hoc self-reports of their actualization of cultural humility. As noted in several studies that examine veterinary community service rotations, as difficult as it is to teach cultural humility, assessing the impact of cultural experiences in these programs is even more challenging.<sup>7,34</sup> Foronda et al. conclude that “although education about cultural humility is needed, there is no way to measure the construct,”<sup>29(p.399)</sup> and a validated measure with good psychometric properties is lacking. For example, veterinary studies assess changes in students’ confidence in communications related to barriers in care (e.g., financial, language, transportation),<sup>13,35</sup> some compare changes in One Health that involve human and animal health outcomes,<sup>21,36,37</sup> and others examine students’ satisfaction with the rural or remote experience (e.g., isolation, career opportunities).<sup>38,39</sup> Foronda et al.’s<sup>29</sup> conclusions are further supported by a recent scoping review of cultural competency measures (including cultural humility) designed to assess the efficacy of such training in medicine and none were identified as a gold standard measure.<sup>40</sup> In the counseling literature, there are several examples of cultural humility scales for self-reports of counselors (e.g., Gonzalez et al.<sup>41</sup>) or client-rated measures of their counselors (e.g., Hook et al.<sup>42</sup>) that may be helpful in developing measures for veterinary students. And more recently, a cultural humility measure has been developed for educators and nursing students that shows promise (e.g., Foronda et al.<sup>29</sup>). Future research should incorporate quantitative measures of cultural humility to assess the effectiveness of their educational interventions designed to improve students’ cultural humility.

### CONCLUSION

The purpose of this study was to explore if participation in remote northern Indigenous community rotations can promote cultural humility among veterinary students. The results suggest that the NCHR provides veterinary students with the opportunity to foster cultural humility while offering veterinary care to communities in need. While cultural competence has had a longer history in health care programs, training programs are only just beginning to develop student cultural humility.<sup>2,9</sup> Cultural humility is increasingly being recognized as a core capacity that should be incorporated into veterinary medicine as it encourages health care providers to understand the ways in which culture and values play a role in clients’ perspectives and decision making regarding their animals. This study adds to the understanding of how practicums with immersion in Indigenous communities can be beneficial for developing culturally humble veterinary practitioners.

The results highlight the importance of rotation orientation and preparation in generating knowledge about Indigenous culture prior to the rotation and how a small veterinary team being deeply immersed within a community and building relationships during the rotation helps foster the development of cultural humility. As a result of the rigorous orientation, preparation, and



immersion, the NCHR improves students' confidence in working with culturally diverse populations, enhances their ability to provide a client-centered approach, and increases their capacity to challenge preconceived biases about Indigenous perspectives and animal ownership. Offering veterinary students a variety of meaningful opportunities to develop cultural humility, such as that provided by the NCHR, is an important step in creating more accessible and culturally safe veterinary care environments for Indigenous Peoples and other culturally diverse groups and their animals. In closing, as one study participant noted,

[The NCHR] helped my development as a veterinarian in so many different areas, and I am better off as a veterinarian because of it ... being welcomed into community members' homes and being offered cake and caribou jerky. Listening to the stories and perspectives of Elders and long-time community members. Also attending the hockey game. In those moments it really felt like we had been accepted and what a nice feeling to sit, listen, and share (and eat) ... I learned so much more than veterinary medicine on this trip. (Participant 7)

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## NOTES

- Note that we refer to dogs as *animals*, not *pets*, since the term *pet* is a Western construct and may not apply to all relationships with dogs found in these communities.
- Please note that we use the term *participants* to refer to those who completed the interviews and *students* to those who completed the NCHR.
- See <https://www.nakodaavclub.com/rez-dog> for more information.
- A blanket exercise is an interactive educational activity that teaches the history of Indigenous Peoples in Canada. For more information, visit <https://www.kairosblanketexercise.org/>.

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## APPENDIX I: OVERVIEW OF THE NORTHERN COMMUNITY HEALTH ROTATION

The Northern Community Health Rotation (NCHR) in the Sahtu Settlement Area began in response to community concerns around dogs. One of the coauthors of the study had been doing wildlife research and outreach in the region for several years when members of the communities began to raise concerns about rabies in dogs, safety issues associated with loose dogs, and the frequency of dog–wildlife interactions in communities. In response to these concerns, in 2008, wellness clinics (vaccinations and antiparasitics) were offered, and a formal needs assessment was implemented to better understand community concerns and how best to serve the communities.<sup>1</sup> The assessment highlighted concerns about dog health and behavior and

overpopulation in the communities, as well as a lack of access to veterinary services, demonstrated by low dog vaccination (21%), deworming (29%), and sterilization (20%) rates.<sup>1</sup>

In 2009, the University of Calgary Faculty of Veterinary Medicine (UCVM), together with Environment and Natural Resources, Government of the Northwest Territories (NWT), established the NCHR program in the Sahtu. The goal was to deliver veterinary services in collaboration with communities to improve both animal and community health while at the same time providing final-year veterinary students with experiential learning opportunities around veterinary medicine in culturally different and remote settings. Clinics offering preventive medicine and sterilization and other minor surgical procedures were piloted with four communities in the Sahtu with the intent of developing a new final-year rotation, the NCHR, for veterinary students; the clinic offerings were extended to a fifth community in 2010.

For the first 2 years, fourth-year veterinary students from the Western College of Veterinary Medicine, Saskatoon, Saskatchewan, were recruited because UCVM did not yet have senior-year veterinary students of its own. In 2011, third-year students from UCVM participated in the rotation, and since then, final-year veterinary students from UCVM have participated. Students in the ecosystem and public health stream at UCVM can choose the NCHR during the draft, where they select their final-year rotations; there is no screening or application required. Between 2009 and 2011, the rotation was 2 weeks long, and only two students participated at a time; in 2012 and 2013, three students participated. In 2014, in recognition that 2 weeks did not permit adequate preparation, orientation, and debriefing time for the students to truly benefit, the rotation was extended to 4 weeks. A fourth student who implemented an investigative medicine project on the use of an oxygen concentrator in remote settings also joined the team that year. Since 2015, four veterinary students have participated in the program per year, with the exception of 2016.

The rotation builds on professional skills and communication skills that are curricular components of years 1–3 of UCVM's veterinary program. Students spend their first 3 days on rotation being prepared through a thorough orientation that may vary slightly from year to year but includes (a) the history and impacts of the rotation (i.e., how the rotation started, the long-standing relationship with the Sahtu communities, the socioeconomic and demographics of the communities, and the results of a program evaluation); (b) cultural awareness and context training (e.g., viewing a documentary about dogs on a First Nation reserve from the perspective of local youth, participating in the Kairos Blanket exercise to more vividly understand the history of colonization in Canada and its impact on Indigenous people, having discussions about different relationships with dogs with First Nations collaborators, participating in discussions on unintended consequences, etc.); and (c) practical/technical sessions on provision of veterinary medicine and surgery in the remote northern context (e.g., what sorts of diseases to consider, how to modify vaccination and deworming protocols for once-per-year clinics, surgical and postsurgical considerations). Following this orientation, the team travels to Yellowknife, the capital of the NWT, where they meet with the NWT SPCA as well as with public health, wildlife biology and health, and environmental health professionals from the territorial government to learn about how community dogs affect and are included in their mandates. After this extensive orientation, the team travels to the Sahtu region, where they spend the next 2.5 weeks traveling the ice roads and

providing veterinary services. During the final week of the rotation, the students debrief with the team, the government, and SPCA professionals and do a public presentation on a topic of their choice emerging from the rotation. They also compile and summarize the medical records and compose letters of thanks to the various supporters, thus building their data analyses and communication skills.

The NCHR program was initiated as a collaborative program with the NWT government, and its support, in principle and in kind, has been an essential component ensuring the longevity and consistent operation of the program. The program receives limited curriculum funding and substantial in-kind support in the way of equipment and personnel (vets and techs) from UCVM. Sponsorship from several other sources has been essential for the program to run. Supporters include individual, corporate, and government partners in northern Canada, the veterinary pharmaceutical industry, as well as substantial in-kind support from the communities and local businesses for accommodation, food, and clinic space. Additionally, services are provided on a fee-for-service basis in one community where the primary industry is oil and gas, which attracts workers from across the country and where average personal incomes are high (\$85,730).<sup>2</sup> Revenue from this community supports the provision of services by donation in the remaining four communities, where the average personal income is much lower (\$38,744–\$42,213).<sup>2</sup>

The rotation is a completely immersive experience because the veterinary team live and work together for 2.5 weeks, sharing accommodation, preparing meals, traveling on the winter roads with all the clinic equipment, setting up and taking down the mobile clinics in each community, and delivering services in local schools or halls and outdoor house calls. Pre-COVID-19, Doctor of Veterinary Medicine (DVM) students would also host classroom sessions with local youth, discussing dog health and welfare, careers in veterinary medicine, dog bite safety, and anything else the youths may be interested in. In this way, the DVM students are exposed to many aspects of daily life in the communities, including the high cost of groceries, the extreme weather conditions, and the small and often-overcrowded homes of community members. Students also have opportunities to interact with different members of each community, such as the bylaw officers, wildlife officers, teachers, hunters, trappers, chiefs, and local youth.

Positive reviews and word of mouth have made the rotation highly sought after by veterinary students when they are selecting their final-year clinical rotations. A program evaluation has also shown that it has been effective at improving dog health and welfare and community concerns around dog overpopulation and health.<sup>3,4</sup> However, the logistics and expense of delivering services to these remote communities and the small size of the Sahtu communities limit the number of students on the rotation to four per year and the number of visits to once per year. Nonetheless, there is recognition within UCVM that experiences like the NCHR are important for veterinary student education, to foster a client-centered approach and reconciliation with First Nations, to expose students to different cultural and personal relationships with animals, and to help students recognize their own biases so that they can be more collaborative and thoughtful members of their communities and profession. The UCVM now strives to expand this model more locally in order to provide more DVM students with the opportunities to interact with, and learn from, Indigenous Peoples around human–animal relationships and veterinary medicine.

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**APPENDIX 2: ONLINE INTERVIEW TOPICS AND QUESTIONS**

Topic	Question
<p><b>Preparation and expectations for NCHR</b></p> <p>First, we would like to ask you some questions about your experiences and perceptions before you participated in the NCHR.</p>	<ol style="list-style-type: none"> <li>1. Before participating in the NCHR, did you have any prior experience with remote Indigenous and/or remote northern communities? Yes/No               <ol style="list-style-type: none"> <li>(a) Please describe any positive or negative impressions that stand out for you from this prior experience.</li> </ol> </li> <li>2. Before participating in the NCHR, what was your biggest concern or worry before you visited the NCHR communities?               <ol style="list-style-type: none"> <li>(a) Did it change during your time there? If so, how?</li> <li>(b) Please offer any suggestions to better prepare participants for the program to reduce these concerns.</li> </ol> </li> <li>3. Describe the one thing that was the most unexpected for you during your NCHR experience. How did you deal with it?               <ol style="list-style-type: none"> <li>(a) From your perspective, what could have been done? Can you think of anything you, the UCVM, the UCVM NCHR team, or the community liaison could have done to better prepare you for this unexpected experience?</li> </ol> </li> <li>4. Please describe any pre-existing thoughts or expectations about the delivery of veterinary care to Indigenous communities that you held before participating in the NCHR.               <ol style="list-style-type: none"> <li>(a) Did they change over time? Please offer some examples that led to these changes.</li> <li>(b) Please offer any suggestions to better prepare students for the program regarding potential pre-existing assumptions and biases.</li> </ol> </li> </ol>
<p><b>NCHR rotation experience</b></p> <p>Next, we would like to ask you some questions about your experiences during the rotation as well as your thoughts after having completed it.</p>	<ol style="list-style-type: none"> <li>1. Describe one experience that stands out as the most <i>personally</i> fulfilling for you. Please explain why it was so personally fulfilling for you.               <ol style="list-style-type: none"> <li>(a) Please check off where this experience occurred (you may check more than one): Norman Wells, Tulita, Dełine, Colville Lake, Fort Good Hope, Yellowknife</li> </ol> </li> <li>2. Describe one experience that stood out as the most professionally fulfilling for you. Please explain why it was so <i>professionally</i> fulfilling for you.               <ol style="list-style-type: none"> <li>(a) Please check off where this experience occurred (you may check more than one): Norman Wells, Tulita, Dełine, Colville Lake, Fort Good Hope, Yellowknife</li> </ol> </li> <li>3. Describe the one thing that was the most stressful and/or difficult for you during your NCHR experience and how you coped with it.               <ol style="list-style-type: none"> <li>(a) What could the UCVM, the UCVM NCHR team, or the community liaison have done to better prepare you for, or help you cope with, these stressful experiences?</li> <li>(b) Please check off where this experience occurred (you may check more than one): Norman Wells, Tulita, Dełine, Colville Lake, Fort Good Hope, Yellowknife</li> </ol> </li> <li>4. Did you feel supported during rotation? Yes/No               <ol style="list-style-type: none"> <li>(a) Identify anyone you felt you could talk to if you were experiencing difficulties and what they did to support you. Please just identify their position, not their name (e.g., another student, community liaison, someone in the community).</li> <li>(b) Describe any activities or organized outlets during the rotation that helped you feel part of the team or helped you cope with any challenges you encountered during the rotation. Can you suggest how these might be improved in future rotations?</li> </ol> </li> </ol>

(Continued)



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Topic	Question
	<p>5. In what ways do you feel that the NCHR helps promote awareness and acceptance of practicing veterinary medicine in culturally different settings?</p> <p>(a) Describe specific experiences that were particularly meaningful for you.</p> <p>(b) What suggestions can you offer as to how the program might improve in preparing team members in cultural awareness and cultural competencies?</p> <p>6. Now that you have completed the NCHR, what do you think are the most important contributions of practicing veterinary medicine in remote communities?</p> <p>7. How have your NCHR experiences influenced your clinical and/or professional practice development as a veterinarian?</p> <p>8. Now that you have completed the NCHR, would you consider participating in delivery of veterinary services to remote Indigenous or remote northern communities again in the future? Please explain your reasons.</p> <p>9. If you were to participate in the rotation again, what would you do differently for preparation or during your time on the rotation?</p> <p>10. What does the concept One Health mean to you personally?</p> <p>(a) Did your understanding or perspectives of One Health change as a result of participating in the NCHR? Yes/No</p> <p>(b) If so, how did it change? Can you offer some examples that led to these changes?</p> <p>11. Is there anything else you would like to share with us?</p>

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NCHR = Northern Community Health Rotation; UCVM = University of Calgary Faculty of Veterinary Medicine