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## Perceptions, Barriers, and Suggestions for Creation of a Tobacco and Health Website among American Indian/Alaska Native College Students

Melissa Filippi, PhD<sup>1,2,3</sup>, Charlotte McCloskey, PhD<sup>1,2</sup>, Chandler Williams<sup>2</sup>, Julia White Bull<sup>2</sup>, Won S. Choi, PhD, MPH<sup>2,3</sup>, K. Allen Greiner, MD, MPH<sup>1,2,3</sup>, and Christine M. Daley, PhD, MA, SM<sup>1,2,3,4</sup>

<sup>1</sup>Department of Family Medicine, University of Kansas Medical Center, Kansas City, KS

<sup>2</sup>Center for American Indian Community Health, University of Kansas Medical Center, Kansas City, KS

<sup>3</sup>Department of Preventive Medicine & Public Health, University of Kansas Medical Center, Kansas City, KS

<sup>4</sup>Department of Anthropology, University of Kansas, Lawrence, KS

### Abstract

Information concerning American Indian/Alaska Native (AI/AN) Internet use and health information needs is dearth. Our research team explored Internet use among AI/AN college students to determine Internet use in relation to health information seeking behaviors. We used a tobacco site example for participants to describe what they desired in a health site designed specifically for AI/AN. Using a community-based participatory research approach, we conducted 14 focus groups with AI/AN college students (N=108), to better understand their perceptions of and attitudes toward Internet use and health information needs. Daily Internet use was reported across strata yet health topics investigated differed among groups. Participants in all strata desired a health website that was easy to navigate and interactive. Respectful representation of Native culture was a concern, yet no consensus was reached for a multi-tribal audience. Participants felt a website should use caution with cultural depictions due to the possible misinterpretation. Overall, participants agreed that recreational and traditional tobacco use should be differentiated and the variation of traditional use among tribes acknowledged. Data concerning Internet use for health

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Corresponding Author: Melissa Filippi, PhD, Research Instructor, University of Kansas Medical Center, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, mfilippi@kumc.edu, O - (913) 588-2654, F - (913) 588-8398.

**Co-author:** Charlotte McCloskey, PhD, Clinical Assistant Professor, University of Kansas Medical Center, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, cmccloskey@kumc.edu  
Chandler Williams, Research Assistant, University of Kansas Medical Center, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, O- (913) 588-3785, F- (913) 588-8398, cwilliams7@kumc.edu  
Julia White Bull, Associate Community Outreach Coordinator, University of Kansas Medical Center, Department of Preventive Medicine and Public Health, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, O- (913) 945-7097, jwhitebull@kumc.edu

Won S. Choi, PhD, MPH, KU-MPH Program, Executive Director, Associate Professor, University of Kansas Medical Center, Department of Preventive Medicine and Public Health, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, O- (913) 588-4742, F- (913) 588-8398, wchoi@kumc.edu

K. Allen Greiner, MD, MPH, Research Division, Director, Professor, University of Kansas Medical Center, Department of Family Medicine, Center for American Indian Community Health, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, O- (913) 588-1930, F- (913) 588-2095, agreiner@kumc.edu

Christine M. Daley, PhD, MA, SM, Center for American Indian Community Health, Director, Associate Professor, University of Kansas Medical Center, Department of Family Medicine, MS 1030, 3901 Rainbow Boulevard, Kansas City, KS 66160, O- (913) 588-1101, F- (913) 588-8398, cdaley@kumc.edu

information among AI/AN college students are needed to establish baseline indicators to effectively address disparities.

## Keywords

American Indian/Alaska Native; College Students; Community-based Participatory Research; Healthcare Disparities; Qualitative Research

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## Introduction

American Indian students face challenges of isolation, poverty, and cultural considerations including both preservation and disintegration [1]. The median household income of American Indian families is the poorest of any major racial group [2]; and, they also have the lowest rate of educational attainment and employment [3]. When it comes to technology, computer literacy is generally poor [1,4] and the willingness to effectively use new technology can also be a barrier [1]. In regard to obtaining new information, American Indian social norms often see knowledge as exclusive to someone who has the right to the information [4,5]. For example, only a few members of a tribe may know how to cure an illness using a traditional method. The availability of information on the Internet for health information may be counter to these beliefs [5].

There has been research focused on the importance of accurate representation of American Indian issues online [6]. Information about American Indians posted on non-Indian websites can reflect erroneous information and repeat the history of misinformation and falsehoods [5], leading to potentially reduced trust in information obtained from the Internet. In fact, some authors suggest that there are more Internet websites about American Indians by non-Native people than there are by Native people [6,7]. The Internet may be one more place where American Indians feel misunderstood and/or misrepresented [5] and may be hesitant to find value in information gathered from this venue. The Internet can also be seen as another attempt to assimilate sovereign people into mainstream dominant culture[5]. However when the sites are either governed by or supported by Native communities they are received well and can be seen as a format from which communication is enhanced and mobilization for current issues can be addressed [5].

Another issue when discussing computer use by American Indian students is how they learn, with experiential learning being preferred and most culturally relevant to more traditional individuals [4]. The Internet, when used only for obtaining information, may not reflect traditional learning styles of American Indian students. Most college students are using the Internet on a daily basis [8], some studies estimate this number to be close to 90% or higher [8,9,10]. However, some questions remain regarding if the use of the Internet by all college students are universal, and that some underrepresented and underprivileged groups are not utilizing the Internet at the same level or for the same purposes [8,9,10,11]. American Indians are increasingly using the Internet [12], though specific numbers are unknown. It is speculated that the numbers are comparable to other ethnicities [12]. Health behaviors and Internet use have been documented among AI, but these studies are few [12,13,14,15].

We looked at Internet use among a heterogeneous group of American Indian college students to determine Internet use in relation to health information seeking behaviors. Our research reports the needs, barriers, facilitators, and suggestions of American Indian students for improvement in access to and use among college students attending a tribal university. Our team is developing a culturally tailored site about smoking and health, so we used that

concept as a platform for discussion. However, the information that describes what people would want in a health site can be used in sites addressing other health issues.

## Methods

To understand facilitators and barriers to accessing Internet health resources among American Indian men and women in Kansas and Missouri, we conducted a series of 24 focus groups with 204 participants. We stratified the sample by age, gender, and whether participants were in college. As college students have particular access to and relationships with technology and the Internet, it was deemed appropriate and necessary to separate college students from other participants. For this paper, we report on the college strata (N=108) only. For recruitment, we used Native-specific listservs; we also recruited participants through posters, flyers, information booths at pow wows, and direct recruitment through our regional community advisory board. We used a variety of methods to solicit both Internet users and nonusers. All study protocols were approved by the University of Kansas Medical Center Human Subjects Committee and the Institutional Review Board of a local tribal college.

The focus group moderator's guide was developed in conjunction with our community advisory board. Researchers and community members worked together to draft moderator guides, based on data gained from the research group's health behavioral change programs and surveys conducted on Internet use [16,17,18,19]. Focus groups were held on campus during both days and evenings to accommodate participant's work schedules. Prior to the group, participants completed written informed consent and a brief demographic survey. Focus groups followed a semi-structured format, using open-ended questions, and using a native ethnographic approach [20]. Groups lasted between 60 and 90 minutes and were audio-taped and transcribed verbatim. Sessions were concluded after data saturation was achieved on major themes. The analysis was jointly conducted by academic and community member researchers. Using native and team ethnography and the principles of community-based participatory research (CBPR) [18,20,21,22], researchers and community members worked together to gain insights and interpretations with both a scholarly and Native communal perspective. Coding followed a CBPR protocol developed by the team [18,23]. The transcripts were coded by hand by three members of the research team using a codebook developed by the joint research team.

Codebooks were developed inductively from the focus group tapes and transcripts. Approximately 10% of the codes were cross-checked by the principal investigator (PI) to ensure inter-coder reliability; few to no differences were found. Coders identified preliminary themes which were then combined into thematic statements by the PI and checked by a community member researcher. All exemplary quotes were identified by community member researchers to ensure fair representation of the culture. Full details of the analytic process are described elsewhere [23].

## Results

We conducted 14 focus groups with American Indian college students; demographic information is summarized in Table 1 and health care characteristics are presented in Table 2. Table 1 stresses the variation of marital status, completed education, and children. Table 2 highlights the similarities and differences in health care use among the four strata.

The results of the focus groups can be organized into four main categories: Internet use, Internet access barriers, website design, Native representation, and recreational and

traditional tobacco use. Little divergence occurred across college class status strata. Therefore, the themes presented were found in each group, unless otherwise stated.

The theme for the category of Internet use depicted that participants in all strata use the Internet every day for social networking, email, entertainment, homework, shopping, and research, including research on health symptoms. Freshman men reported that the health issues on which they focused were weight loss, STDs, and sports injuries. In comparison, freshman women discussed Internet use for prescription identification, weight control, fitness, and preventive health information. The website WebMD was mentioned as a site that has too much information and is confusing in content. Yet, upper-class men mentioned WebMD and similar sites for diagnostic, treatment, and prevention information. They stated that they use this information specifically to avoid going to the clinic. Upper-class women had very similar discussions as freshman women; they talked about using the Internet for preventive care, athletic health, and weight information.

Internet access barriers were described across the four strata. Generally, participants described having access to the Internet from home, school, and libraries, though they believed that financial barriers, lack of Internet access on reservations, poor technology, low motivation, and age were barriers to Internet use for other Native people. Freshman men elaborated on the cost of Internet connection as an inhibitor to home access. Upper-class men discussed lack of technology on reservations and at some tribal universities.

Website design was a topic that all strata participants discussed. Ease of navigation on a website, simple language with bullet points, key word searches, and graphics were key design elements for all groups. Freshmen men mentioned the use of pictures and graphs. They believed that these elements would help website users to stay engaged with information. Even though upper-class men mentioned that they used WebMD for health information, they also stated that the website itself uses difficult language. They mentioned that simple language and plain bar graphs and pie charts were helpful. Upper-class women discussed the need for easy navigation in addition to more website interaction. They wanted a website design that provided up-to-date information, interactive social support, website forums on health issues, and highlighted personal experiences for better understanding of health.

Three of the four strata had themes that revolved around Native representation; however, each expressed the ideas in slightly different ways. For example, the theme on which freshman men elaborated included viewpoints such as, websites need to have Native-specific imagery, using Native color schemes or cultural materials, all representing the diversity of Native culture. They mentioned the colors of the Four Directions and pipes displayed in two pieces as suitable imagery to display on a website. However, upper-class women thought that websites need to be careful of inaccurate or stereotypic portrayal of Native people because it is disrespectful. And, freshman women felt that websites need to be more respectful of Native culture and need to use pictures of contemporary Natives.

Generally, participants agreed that recreational and traditional tobacco use should be explained on a Native-specific smoking and health site. Because traditional tobacco use varies among tribes, upper-class women believed that a site could demonstrate differences, such as through the use of testimonials. While upper-classmen were reluctant to discuss tribe-specific use of tobacco, they agreed that awareness of traditional tobacco use is important. College freshmen females would appreciate a site that not only features traditional tobacco use, but also healthier ways of using tobacco.

## Discussion

The results indicate that slight differences exist among the four college class strata. Answers were comparable among the groups, where no responses clearly diverted from one another. The topics of the focus groups highlight what was important to the participants. For example the topic of Internet use depicts the pervasiveness of the Internet in students' daily lives in and outside of the academic realm. And, we see that American Indian freshmen men and women and upper-class men and women use the Internet for similar functions as other ethnic groups. In addition, we see the need for accessible health information because many students access websites instead of seeing a health care provider. Therefore, it is of the utmost importance that these websites provide basic and in-depth facts over areas of interest. And, these websites need easy-to-access, readable materials where students can interact with others. In addition, it may be useful to have health care professionals answer questions in real time, because many students substitute website information for in-person health visits.

Even though participants from the four strata agreed that Internet access was not a huge issue for them; generally, for those students who did not have home access or complained of slow access at a local tribal university, they spoke of Internet access ease at local businesses and establishments. However, the groups recognized access barriers were a significant problem for those not attending college, particularly those relatives and friends living on reservations. Two possibilities for poorer access on reservations are financial barriers and lack of infrastructure. These issues, along with the greater concern of the digital divide, have been discussed elsewhere [24,25,26,27].

In terms of website design for a health site, participants in all strata agreed on basic aesthetic features and functional components. Simplicity, less text, and more graphics were mentioned alongside ease of navigation. Of particular importance was an interactive website where users could share experiences, support one another, and host webinars. These were of particular interest for health sites because of the need for timely information.

The ideas discussed in representing "Nativeness" on websites generated much discussion. The basic percepts were to portray American Indians in an authentic and accurate way. This comes with challenges due to the diversity of practices and ideas within tribes. In addition, differences exist in urban, rural, and reservations groups. What some participants considered appropriate, others did not. For example, no consensus was reached among the strata in terms of how to depict American Indians and traditional tobacco. Out of respect, some participants believed that depicting people using traditional tobacco would be appropriate as it is important to share what people actually do, while others thought that pictures of traditional tobacco itself would be sufficient. At the same time, the need for increasing knowledge of the benefits, use, and cultural variations of traditional tobacco should be highlighted. This is of particular importance for a Native smoking cessation website because our recent research shows that Native smokers who use traditional tobacco have more success quitting recreational smoking [28]. Thus, more knowledge and research should be disseminated to Native people for improving health through cultural awareness. In addition, participants in all strata preferred the use of graphic or gruesome images depicting the harmful effects of recreational smoking on a site. This was somewhat surprising because our groups were not delineated into smokers and nonsmokers.

The results of this study will be used to design a smoking cessation website tailored to American Indians and inform our organization's website. The comments and suggestions provided by participants will influence how the messaging of general health, and more

specifically smoking cessation, can improve individual and community wellbeing among American Indians.

A possible limitation to this study is the lack of a health website example to critique during the focus groups. Offering a test or sample website to focus group participants may have been beneficial because students could identify specific items or features that they preferred. These comments would have been more specific and directed to our planned Native health-based website. In addition, the results have limited generalizability. This is due to the fact that the focus groups were conducted in the Midwest among a finite number of tribes. Yet, the representation of reservation, rural, and urban residents were incorporated into the viewpoints expressed.

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**Table 1**  
Demographic Characteristics for American Indian/Alaska Native College Students Who Participated in Focus Groups (N=108) (n; percentage of subset)

	Marital Status		Education Completed		Children	
Freshman Women	Never Married	26 (94%)	High School	12 (44%)	Yes	5 (19%)
	Divorce/Widow/Other	1 (6%)	Some College College Degree	13 (48%) 2 (8%)	No	21 (81%)
Freshman Men	Never Married	31 (94%)	High School	26 (76%)	Yes	4 (12%)
	Divorce/Widow/Other	2 (6%)	Some College College Degree	1 (3%) 7 (21%)	No	29 (88%)
Upper-class Women	Never Married	16 (64%)	High School	3 (12%)	Yes	6 (24%)
	Divorce/Widow/Other	3 (12%)	Some College	11 (44%)	No	19(76%)
	Married	6 (24%)	College Degree	11 (44%)		
Upper-class Men	Never Married	18 (82%)	High School	3 (14%)	Yes	5 (23%)
	Divorce/Widow/Other	1 (4.5%)	Some College	12 (54%)	No	17(77%)
	Married	3 (13.5%)	College Degree	7 (32%)		

**Table 2**  
Health Care Characteristics for American Indian/Alaska Native College Students Who Participated in Focus Groups (N=108) (n; percentage of subset)

	Where do you get most of your health care?		What type of health care provider do you see most of the time?		Do you see the same provider most of the time?	
Freshman Women (n=27)	Indian Health Service	13 (54%)	Doctor	17(72%)	Yes	16 (59%)
	Tribal Clinic	5 (21%)	Physician's Asst	2 (8%)	No	11 (41%)
	Other	6 (25%)	Traditional Healer	1 (4%)		
Freshman Men (n=34)	Indian Health Service	14 (50%)	Doctor	30(88%)	Yes	24 (71%)
	Tribal Clinic	8 (29%)	Physician's Asst	1 (4%)	No	10 (29%)
	Other	6 (21%)	Traditional Healer	1 (4%)		
Upper-class Women (n=25)	Indian Health Service	12 (52%)	Doctor	12 (52%)	Yes	19 (76%)
	Tribal Clinic	6 (22%)	Physician's Asst	1 (4%)	No	6 (24%)
	Other	6 (26%)	Traditional Healer	2 (9%)		
Upper-class Men (n=22)	Indian Health Service	11 (55%)	Doctor	16 (73%)	Yes	5 (23%)
	Tribal Clinic	4 (20%)	Physician's Asst	1 (4.5%)	No	17(77%)
	Other	5 (25%)	Traditional Healer	3 (13.5%)		
			Nurse Practitioner	1 (4.5%)		
			Other	1 (4.5%)		