

## Applying innovative approaches to address health disparities in native populations: an assessment of the Crow Men's Health Project

Paul R. Lachapelle<sup>a\*</sup>, Tim Dunnagan<sup>b</sup> and James Real Bird<sup>c</sup>

<sup>a</sup>Montana State University, Political Science, Bozeman, 59717, USA; <sup>b</sup>College of Health Sciences, Boise State University, Boise, Idaho, USA; <sup>c</sup>Crow Indian Reservation, Crow Agency, USA

Using a Community-Based Participatory Research approach, the Crow Men's Health Project is a partnership between university researchers and men of the Crow Indian Reservation to address health disparities, particularly cancer risk, screenings and treatments. The objective in using this approach is to establish trust, share power, foster co-learning, and ultimately address community-identified needs and health problems. However, application within the context of Native American communities has only recently been studied with only a paucity of evaluative research on the quality and outcome of partnerships. This research details the accomplishments to date of this partnership. The findings and implications of the research illustrate the importance of establishing support by tribal leaders, recognizing the time commitment and potential for conflict with timelines, the significance of creating a trusting environment for health discussions, and the critical role of an Advisory Council to ensure the active participation of the community.

**Keywords:** cancer screening; community-based participatory research; Crow Indian reservation; health disparities; trust

### Introduction

Many public health issues, including the incidence of cancer, are significantly higher for Native populations in the United States than other minority populations. Nationwide, the Indian Health Service reports that American Indian men's life expectancy is 2.4 years less than the US all races population (Indian Health Service, 2006). The state of Montana has a significant Native population; American Indian men in Montana exhibit the highest cancer incidence rates compared to American Indian women and white men and women, and mortality from all cancers are higher for American Indian men than for white men (Montana Cancer Control Coalition, 2006).

This paper describes a new partnership called the Crow Men's Health Project, between researchers at Montana State University and members of the Crow Indian Reservation (Apsáalooke Nation) in southeastern Montana. An innovative approach called Community-Based Participatory Research (CBPR) has been

---

\*Corresponding author. Email: paul.lachapelle@montana.edu

implemented to address general health issues for Crow men and specifically to increase the participation of adult men from the Crow Tribe in preventative health screenings, particularly prostate, testicular, and colorectal cancer. CBPR is widely-recognized as a promising strategy for conducting public health research because it emphasizes partnerships and has the potential to empower communities that wish to address their health disparities in a culturally-relevant manner. Consequently, our objective, at this early stage of research, is to apply a descriptive and exploratory research design using a CBPR approach, while also providing some preliminary evaluative and analytical perspectives of this new health initiative.

This community-based approach is innovative in terms of research design, data collection and analysis, and ultimately program implementation and evaluation since community members, tribal organizational representatives, and researchers are equal partners in all components and phases of the research process and outcome. The approach is critically relevant to improving public health disparities amongst this population, improving relations both on the Reservation and with the university research community, and holds a good chance of success because of the collaborative approach used to address various community health issues.

### **Overview of community-based participatory research**

The central premise of CBPR is active collaboration and power sharing amongst partners to collectively address and defined issues. Community members, tribal organizational representatives, and researchers are equal partners in all components and phases of the research process and outcome. The active involvement of all community stakeholders including tribal leaders, elders, various clan interests, and youth, is critical to forming strong partnerships and ensuring the success of a project.

In many Indian contexts across the United States, and internationally, a lack of trust has developed as a result of research conducted without proper consent, or with ensuing hidden agendas, financial profiting, exploitation of the population being studied, or failure to follow-up with research findings. Investing time to build trust and mutual learning in partnerships is critical in any collaborative project, particularly in Native American communities where community members have had many negative experiences with researchers and research processes, resulting in a valid apprehension to engage in research (Christopher, Watts, Knows His Gun McCormick, & Young, 2008; Holkup et al., 2009). Developing trust and maintaining successful community-based health partnerships is dependant on sharing information, responsibilities, power, and funding equitably among partners (Beil, Evans, & Clarke, 2009; Strickland, 2006). Critical to successful CBPR is recognizing and being cognizant of the diversity of cultural values and norms that exist within and between native populations as sovereign tribal governments with distinct needs and issues (LaVeaux & Christopher, 2009). Of particular importance is establishing mechanisms for formal and informal tribal oversight from both a practical and ethical standpoint (Baldwin, Johnson, & Benally, 2009; Fisher & Ball, 2003).

The CBPR approach is widely-recognized as an efficacious strategy for conducting research with American Indians because it emphasizes collaboration and has the potential to empower communities to address health disparities in a culturally-relevant manner (Mail, Conner, & Conner, 2006). In this sense, the CBPR approach can provide remedial action to both historical and continuing experiences of exploitation (Christopher, 2005; Foster & Stanek, 2007; Potkonjak, 2004). The

integration of academic perspectives and skills with local experience, knowledge and resources allows more useful and credible interpretation and use of methods and results. In addition, a CBPR approach can build community capacity through community members' participation in project implementation (Cargo & Mercer, 2008).

There are many broad principles of CBPR that have been applied in general health contexts (Israel, Eng, Schulz, & Parker, 2005; Minkler & Wallerstein, 2003). However, application within the context of Native American communities has only recently been studied (see for example, Baldwin et al., 2009; Burhansstipanov, Christopher & Schumacher, 2006; Fisher & Ball, 2003). To date, there is only a paucity of research on effective strategies in the context of Native American communities and few studies provide detailed insights or evaluate the quality and outcome of the partnerships (Christopher et al., 2008; Holkup, Tripp-Reimer, Salois, & Weinert, 2004). Applying this innovative approach to the Crow Reservation has already shown signs of success in terms of fostering mutual learning and building trust, both with the current project, and recent unrelated research initiatives.

### **Crow Men's Health Project history and objectives**

Several years ago, a number of Crow men approached faculty at Montana State University about a project devoted to men's health disparities, after seeing great success with improved rates of cervical cancer screening among Crow women on the Reservation using "Messengers for Health" or lay health advisors (Watts, Christopher & Smith, 2005). Initial meetings were arranged amongst the authors and tribal community members to engage Crow men in in-depth conversations about health issues and social, economic and cultural barriers to improving health status and addressing health disparities among them.

The first Crow Men's Health Project meeting, held in October, 2007, was attended by tribal members and key leaders in the community including individuals from Little Big Horn College, Indian Health Service, and the Crow Tribe governing bodies. The group established a five-member Crow Men's Health Project Advisory Council made up of Crow tribal members. Funding was provided by the Center for Native Health Partnerships (CNHP), an Exploratory Center of Excellence funded by the National Center on Minority Health and Health Disparities located at Montana State University. The purpose of the CNHP is to fund projects that bring together Native American community members and academic researchers to establish trust, share power, foster co-learning, and examine and address community-identified needs and health problems.

The Advisory Council determined there were four objectives in the short-term that could be accomplished through the CNHP funding;

- (1) Identify relevant Crow men's health topics,
- (2) Obtain baseline survey data,
- (3) Increase an awareness of health, and,
- (4) Pursue future funding.

Each of the objectives is described in more detail below but a brief explanation is provided here. First, a series of community meetings and focus groups would be held to begin to identify central themes and relevant topics of the Crow men's health project. This was done by establishing trust and building relationships in a safe

environment where personal issues could be brought forward, discussed, and debated through in-depth conversations on health issues of concern to men. Second, the Council felt it was important to establish or gather a coherent baseline dataset on Crow men's health issues through community-based surveys and historical data. Third, the Council felt that establishing an education and outreach component of the project would be critical. Last, the Council determined that a longer-term funding source needed to be identified and secured.

As a result of the community meetings and focus groups (detailed below), the Crow Men's Health Project Advisory Council determined that the focus of the project would be on the health topic of prostate, testicular and colorectal cancer and factors that could contribute to low preventative screening rates; topics that have been repeatedly raised and discussed at community meetings.

### **Background on Crow Reservation and Crow men's health**

The Crow Indian Reservation (Apsáalooke Nation), the largest in Montana (approximately 2.3 million acres), is located in a high plains prairie and Rocky Mountains environment of south central Montana. Eighty-five percent of the Apsáalooke Nation speaks Crow as their first language, but nearly all adults are fully bilingual with English. There are approximately 12,300 enrolled members of the Apsáalooke Nation, of whom about 3800 are adult men. Of these, approximately 2500–3000 live on or adjacent to the Reservation where they are eligible for treatment at Indian Health Service. The 2000 US Census found 42% of Crow families living below poverty (compared to the US rate of 9.2%). The Bureau of Indian Affairs estimates the unemployment rate for the Reservation at 47% in 2005. Primary employers for the Reservation are the Crow Tribe, the Indian Health Service, the Bureau of Indian Affairs, and Little Big Horn Community College.

As with many residents of Montana, most communities on the Reservation are remote and isolated. The health care provided through Indian Health Service, tends to be overtaxed. Lung/bronchus, colorectal and prostate cancer are the most common cancers among Crow men, and cancer is the second most common cause of death, after heart disease (Montana Department of Public Health and Human Service, 2008). Most cancer researchers realize that a complete cancer picture does not exist for American Indians, and reported estimates almost assuredly are lower than actual rates (Swan & Edwards, 2003). Proportionately to Whites, the American Indian population in Montana drops precipitously after age 44 (Montana Cancer Control Coalition, 2006). Some of the greater mortality may be due to later stage at diagnosis with corresponding poorer prognosis. For some cancers, American Indians have a slightly poorer survival experience at each stage of diagnosis than Whites. This may be due to less access to treatment and follow-up care (Montana Department of Public Health and Human Services, 2008). The actual reasons for these disparities are not clear and additional research is needed to identify the specific causes for these differences, nevertheless, they exist.

Increased early screening could reduce cancer mortality rates among American Indian men. For example, colorectal cancer screening can reduce colorectal cancer mortality by at least 60% (CDC, 2009). However, early screening appears to be extremely uncommon, at least among Crow men. Furshong and Wamsley (2009) show a difference in 2006 endoscopy rates for American Indians and Whites in Montana of less than 40% to more than 50% respectively. Differences are similar for

various prostate cancer tests. However, reliable data about screening rates for the Crow population are unavailable as datasets of Apsáalooke Nation population are not large enough to provide reliable findings on Crow men's cancer screening behaviors from the Montana Behavioral Risk Factor Surveillance System (Carol Ballew, Epidemiologist/Program Manager for the MT Cancer Surveillance and Epidemiology Program, personal communication, October 6, 2009).

The Indian Health Service keeps data about the number of individuals who have sought cancer screening, but there are many inadequacies in this record-keeping. First, the reported rates pertain only to a count of the men who have visited Indian Health Service clinics. Partin, Rith-Najarian, Slater, Korn, Cobb, and Soler (1999) note that Indian Health Service data tend to underestimate cancer incidence in American Indian populations because not all individuals seek medical care or use IHS when ill. Another challenge to accurate screening rates, at least at the Crow IHS clinic, is poor coding practices regarding reasons for visits and diagnoses (David Mark, M.D. IHS Crow Agency, personal communication, October 17, 2009). Underreporting is also known to be a problem, and misclassification of race also occurs at all levels of the health care process, from health care provider observation or inappropriate classification options, to how individuals choose to classify themselves (Hampton, Keala, & Luce, 1996; Montana Department of Public Health and Human Services, 2008). Therefore, valid baseline data related to Crow men health behaviors does not exist.

Despite the problematic data related to health behaviors, it is clear that many American Indian men are not receiving screening at recommended ages or intervals. A study by Rhoades (2003) found that although American Indian/Alaska Native (AI/AN) males' death rates exceeded those for AI/AN females, males contributed only 37.9% of outpatient visits, and only 47% of hospitalizations. He concludes that AI/AN males suffer inordinate lack of utilization of health care services. Consistent with the Montana Comprehensive Cancer Control Plan (2006–2011), the first step toward increasing compliance with the American Cancer Society Cancer Detection Guidelines is to identify barriers to screening accessibility and utilization, which may include cost, geographic location, cultural factors, uneven distribution of resources, or care choices that lack standardization. Consequently, a major focus of the current project has been to identify these barriers and culturally-appropriate methods to address them.

The Crow Tribe currently has public health programs dealing with other health problems (diabetes, obesity and drug abuse, in particular, meth awareness), but no programs address cancer generally, or men's cancer risks in particular. Rhoades (2003) recommends more attention should be given to cancer among AI/AN men middle-aged and older, and done in conjunction with interventions that consider poverty, loss of self-esteem, loss of traditional roles, and depression. Burhansstipanov (1998) has written that community-based and community-driven cancer prevention and cancer control projects can and will work in Native American communities. The input from the tribe and resulting sense of urgency reinforce the intervention.

The Crow Men's Health Project takes a holistic, community-based approach to address cancer in the context of embracing, celebrating and affirming men's whole health, enhancing resources available to them (both information and material resources), and affirming both traditional and nontraditional men's roles relative to gatherings, men's activities and cultural traditions.

## Findings and implications

While findings of the research are still in the early stages, there are some preliminary conclusions and implications that are beginning to surface. With regard to the four major objectives of the Advisory Council, findings and implications are offered and discussed.

### *Objective 1. Identify relevant Crow men's health topics*

Through the funding provided through CNHP, the project research team (university faculty and Crow tribal members) initiated 14 community meetings using a focus group approach involving 220 Crow men of all ages at different locations on the Reservation while bringing in health experts and introducing health data from existing sources. Detailed notes were taken at all meetings and results were presented to the Advisory Council to synthesize the many topics covered and to corroborate findings. Among the issues identified by meeting attendees have been cancer, obesity, alcohol-related diseases, diabetes, mental illness and heart disease.

Through the focus group discussions, the Advisory Council decided to focus on the health topic of prostate, testicular and colorectal cancer as these topics were repeatedly raised and discussed at community meetings as urgent and under-represented in terms of health education and treatment. The central objective of the focus groups was the identification of various barriers to health, wellness and health prevention and treatment for Crow men. Collaboratively, through the focus group process, seven distinct themes were identified that influenced or served as barriers to good health and wellness for Crow men.

### *Theme 1. Non-traditional lifestyle*

A common theme identified by Crow men at the focus groups was the relatively recent non-traditional lifestyle that seemed to permeate the tribe, particularly with young Crow men and youth. In particular, descriptions of non-traditional food containing high amounts of sugar and fat were seen to be readily available throughout the Reservation and over-used and abused. The high consumption of soda and candy and other fattening foods were often described and seen to be having a harmful and in some cases, lethal impact for men on the Reservation. Coupled with this was a non-active lifestyle augmented by such issues as television and video games and lack of interest in traditional activities such as hunting, horsemanship, and drum circles and dancing. Great concern was expressed, particularly by elders, of the rapid changes they had seen with the younger generation, in terms of general obesity rates, sedentary lifestyles, and general lack of interest in traditional cultural knowledge and practice.

### *Theme 2. Lack of role models*

Many men recognized the need for effective role models (particularly male role models) on the Reservation. A common theme was the lack of men who could provide good examples of a healthy lifestyle. Reasons for the lack of role models were varied and complex but were generally centered on the fact that many men were moving away from the Reservation for educational and employment opportunities, resulting in the "brain drain" of some of the "best and brightest" of the population.

In addition, the deteriorating condition of the cohesive family unit was often cited as a barrier to effective role models on the Reservation with divorce and domestic violence described as creating a cascading generational affect for Crow men.

Apart from identifying these many barriers, the men also described the importance of “cues to action;” the people or conditions that might persuade them to obtain screening tests. Many men discussed tribal members who had died from cancer, and relatives who had had colorectal cancer and this in turn led to considerable discussion of the benefits of screening. The men identified the importance of having these types of conversations and the role of elders and others in influencing their health behaviors. For example, often cited was one’s “clan uncle” that has responsibility to assist or promote healthy behaviors. Family members, especially women, were also perceived as having great potential to influence behavior.

### *Theme 3. Quality of care*

A great deal of the focus group conversations centered on the poor quality of care available to Crow men, creating disincentive to use local health services. In particular, Crow men reported a strong aversion to utilizing Indian Health Service (IHS) because of their negative experiences (individually and collectively). The main details to emerge about the health services available to Crow men were issues of efficiency, the quality of care that resulted, and confidentiality.

This information was corroborated with personal communications with those working at IHS and through secondary data. For example, the available documented and anecdotal evidence suggests that, despite the existence of a specific health agency to serve them (e.g. IHS), in general, Reservation residents are receiving sub-par medical care (Dixon & Roubideaux, 2001). This is due in part to the fact that IHS consistently runs out of funds by April or May of each fiscal year (October through September), and subsequently for at least half of the year, only life-threatening conditions (death expected within 72 hours without care) are treated at the Crow clinic (Doug Moore, IHS-Billings medical director, personal communication, April 10, 2009). In addition, few Reservation residents have alternatives to utilizing IHS. If tribal members are found to have cancer, they will receive treatment through IHS Contract Health Service (essentially insurance coverage for illness not treatable at the local clinic), but IHS does not have adequate resources to provide many necessary preventative care services. Furthermore, an actuarial analysis found that the IHS budget provides only 55% of the necessary federal funding to assure mainstream personal health care services to American Indians (Indian Health Service, 2006).

In addition, IHS medical personnel have notoriously high turnover rates, meaning that most Indian patients do not have opportunities to develop a personal relationship and rapport with a family doctor over time. In general, individuals obtain screening in part because their family physicians recommend it during a regular check-up. Regular check-ups and family physicians are a rarity among Crow people, especially men. Also, the costs associated with preventive screenings (particularly the inconvenience of the travel given the expanse of the Reservation and limited access to transportation) are barriers to participation.

With respect to their health care options, many men in the focus groups report facing a lack of confidentiality at IHS about the reasons for their visits or the care

they receive (not uncommon throughout rural America where anonymity is hard to come by, for example, nursing staff or medical coders may be female or even family members, resulting in embarrassment for the men, or they may be personal or clan enemies resulting in a sense of vulnerability about the confidentiality of their health status; current Crow society is characterized by substantial unresolved interpersonal conflicts). Other barriers described by men include extraordinarily long waits despite appointment times, and personnel who do not inspire trust and confidence. Therefore, a number of factors associated with IHS have impacted Crow tribal member's access to quality care.

#### *Theme 4. Lack of health promotion*

Education was also described as a critical issue influencing health and wellness for Crow men. The level of health promotion in school was described as inadequate, with many in the younger generation simply being unaware of a host of critical health issues. This was further augmented by discussion of reported high drop-out rates and poor scholastic performance of Crow youth. In addition, misinformation among Crow men was described as common. For example, several Crow elders thought prostate cancer was treated through castration. Knowledge of risk and behavioral issues associated with diet were also described as lacking with limited options to learn more about these types of basic health issues. In addition, there was a great deal of discussion on the general lack of awareness of high success rates associated with early detection of prostate cancer and the variety of treatments that can be used to address this condition.

#### *Theme 5. Stoicism*

Another theme that emerged from the focus groups was stoicism that many men stated was an inherent characteristic of Crow men, particularly amongst the older population. Men would describe their discomfort with physical vulnerability, and that they tend to face pain or disease with stoicism. There is a common attitude held by Crow men that they do not complain, do not discuss with peers, and do not seek care unless they have very serious and immediate health issues. Many said they find it embarrassing to be touched and probed in a medical exam, particularly by a female doctor. Digital rectal exams were discussed as not fitting with a man's pride.

The term "warrior" was repeatability used by Crow men to describe a mindset that persists to the present day. Men discussed a sense of "warrior pride" and the need to not share or express their personal fears and insecurities, to both women and other Crow men. Related to this theme was the topic of self-esteem and admitted confusion over what several men questioned, "what does it mean to be a Crow man?"

#### *Theme 6. Economic situation*

Many men discussed the realities of life on the Crow Reservation and the high poverty rates and unemployment that seem to be epidemic and a relentless obstacle for Crow men. Men are seen as providers to the family and community, and to take away family resources for personal issues, such as health exams or taking time from work, were seen by some to be selfish acts if the community or family were not taken care of first.

*Theme 7. Spiritual/superstitious/psychological issues*

Last, spiritual, superstitious, and psychological issues were described by some as impediments to good health. Many men in the focus groups described spirituality as imbuing all aspects of their life with regular prayer conducted for those who were experiencing health problems or for themselves. Some men also used the word superstitious to explain the beliefs amongst many men on the reservation of fear of the unknown or conceptions of causation with regard to health and disease. Many men knew others or believe themselves that by meeting with a health care provider for a health check up or a disease screen in itself invites the disease. Many stories were related by men who knew of others who felt positive test outcomes resulted from the test itself. Many men recognized that various belief systems could have psychological influences and thus could be a major impediment to engaging in preventive health behaviors, particularly for more traditional members of the Crow Tribe.

*Objective 2. Obtain baseline survey data*

The second objective of the Advisory Council was to better understand the attitudes, knowledge and behavior of Crow men with regard to cancer. A short IRB-approved survey was jointly created and distributed to men attending the focus group meetings. While the sample was not representative of all Crow men on the Reservation, it did provide some insight into the health factors especially with elder males (average respondent age of 55.2). Table 1 provides select results from Crow Men's Health Project survey.

The results revealed that more than half of survey respondents had one or no general exams in the last five years with nearly one-third having none. Several of those receiving more than five exams explained that these were the result of dialysis or advanced diabetes treatment. Nearly half admitted to being nervous about getting health screenings. When asked specifically about prostate cancer screenings, nearly half of respondents said they had not had a screening in the last two years. Respondent's knowledge of risk seems to be quite low (e.g. over 75% responded either no or they don't know if their risk of being diagnosed with prostate cancer is low over their lifetime when in fact the risk is approximately one in six). In addition, over half of respondents were unaware of the increased risk of prostate cancer if an immediate family member had been diagnosed.

Table 1. Select results from Crow Men's health project survey (N = 64).

Number of general health exams I have received in the last five years.					
0 = 32.4%	1 = 25.2%	2 = 14.4%	3 = 10.8%	4 = 10.8%	5 = 36%
I am nervous about getting health screenings.					
No = 53.1%	Don't Know = 4.2%	Yes = 42.7%			
I have had at least 1 screening for prostate cancer in the last two years.					
No = 46.9%	Don't Know = 6.1%	Yes = 47%			
My risk for being diagnosed with prostate cancer in my lifetime is very low.					
No = 10.2%	Don't Know = 65.3%	Yes = 24.5%			
My risk of prostate cancer increases if an immediate family member has been diagnosed.					
No = 28.6%	Don't Know = 21.4%	Yes = 50%			
Information about prostate cancer is easy to obtain in my community.					
No = 31.6%	Don't Know = 43.8%	Yes = 24.6%			
I would learn more about prostate cancer if the information was readily available.					
No = 8.3%	Don't Know = 4.2%	Yes = 87.5%			

Despite the fact that prostate cancer seems to be uppermost in the minds of these men (they consistently have cited it as a top concern), a large majority said that, to their knowledge, information about prostate cancer was not readily available in their communities or they were not sure.

The results from the survey, while preliminary and non-random, provide at least a preview of some of the nascent issues confronting men on the Crow Reservation. It should be noted that this sample represents men who attended the focus group meetings, and thus likely had an interest in learning about and discussing health issues. It could be inferred that this sample is perhaps more knowledgeable and concerned with health discrepancies than the greater Crow population. Follow-up surveys with a larger and more representative sample will only enhance these data and provide further insight for the Advisory Council to pursue future programs and funding options.

### *Objective 3. Increase an awareness of men's health*

As a method of raising awareness for the project, the Advisory Council organized the Crow Men's Health Ride at the Four Dances Natural Area near the Reservation. The ceremony was a colorful and poignant event with over 70 Crow men participating, many of whom on horses in traditional dress riding bareback. The ride signified the importance of health and the need for Crow men to actively engage in promoting and protecting their health and the members of their tribe.

According to Crow narrative, this location was the site of the death of several Crow warriors in the eighteenth century who contracted smallpox and decided to sacrifice themselves by riding their horses over a cliff in order to save the Tribe from the disease. Consequently, the site holds great significance for the Crow people in general and was therefore an important area to stage this health promotion event. The event was filmed in its entirety and received a great deal of media attention. An educational documentary with interviews of men discussing health issues was completed in 2009 and has been shown to men across the Reservation. The film can be viewed in its entirety at: <http://crowmenshealth.org/>. Future film screenings at various locations on the Reservation and for students at the university are now being planned.

At the community meetings, health professionals were occasionally brought in to share their expertise with the men in attendance and were available to answer questions. Educational material was also distributed by the Advisory Council at the meetings. Much of this educational material was specifically crafted for a Native American audience and thus an attempt was made to provide culturally-appropriate information. In addition, other health education videos were shown at the meetings to inform attendees, promote questions and discussion, and elicit personal reflection. All of the material collected and distributed was approved and gathered with the consent of the Advisory Council.

### *Objective 4. Pursue future funding*

The Council determined that in order for a long-term intervention to be successful, a long-term funding source would have to be identified and secured. Currently, the Council is working with university faculty on several grant proposals. The purpose of the grants is to fund a program that will increase educational outreach and cancer

screening rates for Crow men and in turn increase probabilities of early stage diagnosis and ultimately survival rates. Several grant proposals are now being reviewed by federal health agencies with hopes of continuing the above objectives as well as expanding the project to include active screening opportunities through a mobile testing unit that will target men at various cultural events.

The problem at the center of this project is the low numbers of Crow men who obtain health screenings, particularly for cancer. Building on information and perspectives shared over the last two years, the grants proposals center on the many structural and cultural barriers identified through the community meetings that cause Crow men to avoid health screenings. The barriers outlined in the proposal include: (1) nervousness, embarrassment and other cultural factors that influence getting tested; (2) misinformation about risk factors, the benefits of screening and treatment options; (3) challenges in utilizing the Indian Health Service clinic on the Reservation, including perceived lack of confidentiality, and perceived lack of quality and timely service; (4) lack of a personal health care provider able to serve them consistently over time; and (5) inadequate Indian Health Service resources.

The overall intent is to increase preventive health screening behaviors among Crow men, by implementing and evaluating a collaborative strategic intervention that directly addresses the barriers identified above. The proposal describes contracting with a male Family Nurse Practitioner (FNP) chosen by the Crow Men's Health Advisory Council, and introducing targeted men's health screening events. Education will be provided at the time of the screenings by the FNP, who subsequently will follow up with each man individually regarding test results, and will thereafter serve as an advocate and facilitator (throughout the life of the grant) to assist men with health conditions that require follow-up care through Indian Health Service. Health education programming also will include community-wide publicity, a lay men's health mentoring program, and collaborations with other cancer education agencies in the area. These efforts are aimed at correcting misinformation, and also at celebrating Crow men's health, promoting the concept that proud Crow men (warriors) get preventive health screenings rather than stoically suffering ill health.

Evaluation research will involve a team of university partners and the Advisory Council members and aims to determine effectiveness of the strategy for increasing the future incidence of health screenings among Crow men. The research will use quantitative surveys and in-depth qualitative interviews with screened subjects to investigate why beliefs, attitudes and values exist or change as a result of the project. In addition, the Family Nurse Practitioner will assist with analysis of health outcomes linked to the intervention. The research team will invite IHS and other health agency representatives to engage with the team in analyzing the data that result from the impact evaluation described above. Involvement with data analysis, especially review of interview data, promotes awareness that is very different from reading a report or watching a video, leading to intimate involvement with the acquisition of knowledge. Together, the data analysts will become the voice for incorporating effective aspects of the proposed intervention into protocols within IHS.

If funded, policy options development will set the stage for dialogue sessions with Crow Men's Health Advisory Council and Lay Health Mentors, Indian Health Service offices, Montana Comprehensive Cancer Coalition, relevant County health departments, and the Crow Health Department. Dialogue meetings will explore

opportunities for collaboration to institutionalize appropriate supports for future Crow men's preventive health screenings.

### *Implications of research outcomes*

As a result of the CBPR approach used in the Crow Men's Health Project, there are several tangible outcomes to date that have important implications. While this early stage of research was meant to be descriptive and exploratory, there are several evaluative and analytical statements that can be offered in the following six areas; (1) the importance of obtaining formal support from Tribal authorities; (2) the investment in time necessary to work in this context; (3) the importance of personal relationships in establishing and building trust; (4) the difficulty of obtaining baseline data; (5), the themes identified from our focus groups; and (6) the significance of providing ownership over the process and outcome by using the CBPR approach.

First, the project has the full support of the Crow Tribe's Executive and Legislative branches of government and other key individuals and organizations in the region. The project has received formal approval and support from Tribal Chair of the Crow Nation. A Tribal Resolution passed unanimously in the Crow Legislature in the summer of 2009 endorsing the project. Partnerships within and outside of the Tribe have also been established including medical personal at area hospitals, additional faculty at both Montana State University and Little Big Horn College, and Tribal representatives across the state of Montana to garner additional support and guidance. This support and the key partnerships that have resulted have been critical to promoting the project and ensuring that the program is seen as legitimate and valid.

A second outcome has been the realization of the great effort and time that has been required to reach the four objectives. In particular, time has been the great limiting factor in building relationships, trust, and ultimately identifying and prioritizing health issues and methods to address them. Native communities take great pride in social gatherings, deliberative meetings with storytelling, and building rapport, all of which are crucial to fostering trusting partnerships. However, time has been a major factor in terms of both grant funding deadlines, and university faculty obligations to produce research findings and publish results. Indeed, as Minkler & Wallerstein (2003, p. 100) note, "The reward system of universities discourages collaboration, and community members have to make time and even money sacrifices to collaborate in research, while academics get rewards." Many of the Crow men have expressed concern that certain timelines have felt rushed. To work around this issue, the project has benefited from candid deliberations of all partners in terms of personal and professional expectations and obligations; deliberations that seemed to be more productive because of the nature of the CBPR approach.

Third, a major implication of the project has been the importance of focusing on personal relationships to establish and build trust among the partners. The relationships were built from in-depth conversations conducted in a setting that was inclusive and comfortable. The resulting trust has led to a profoundly deep connection between all partners and an ability to deliberate on very personal matters. Consequently, several men have reported that they have undergone cancer and general health screenings as a result of the trusting relationships built during this project.

Forth, the project has revealed the difficulty of obtaining baseline epidemiological data. The implications are significant in that future funding must be directed toward establishing quality baseline data, and also justifying a need for any future health intervention. Next, the themes identified from the focus groups reveal important characteristics of how the Crow men envision the current health situation. These revelations will help guide the process as the partners look for strategies to improve health care opportunities for Crow men.

Last, and perhaps most important, a significant outcome has been the recognition that the CBPR approach has led to a sense of ownership of both process and outcome. The ownership has bolstered and further legitimated the Advisory Council that is viewed as critical to the success of the project. The commitment of the Council, notably the Chair, in terms of facilitating meetings and ensuring that critical members of the community were involved and actively participated in all aspects of the project. Without the ownership engendered for the process and commitment of the Council, this project would not have accomplished the stated objectives.

### Conclusions

It is clear to all of the partners involved in the Crow Men's Health Project that using a CBPR approach has been integral to accomplishing the objectives to date. This approach has allowed trust to flourish between the university community and the tribal population in a way that has fostered a deep sense of commitment to task and realization that through a concerted effort to share power and resources, a mutually beneficial relationship could result. In turn, the approach has led to endorsement by tribal leaders and elders and has therefore garnered support from the rest of the community. The CBPR approach allowed the group to obtain initial funding, hold a series of community meetings and focus groups, distribute surveys, perform educational outreach, create an educational documentary film, and pursue future funding with a high probability of success.

The importance of genuine partnerships in health research and applied interventions is critical, particularly when addressing health concerns with a population that has a long history of neglect or mistreatment in terms of both health and academic research. Using this CBPR approach has been instrumental in establishing trust, building relationships and ultimately, identifying and beginning the long road of addressing health issues for men of the Crow Indian Nation.

### Acknowledgement

The project described was supported by Award Number P20MD002317 from the National Center on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center on Minority Health and Health Disparities or the National Institutes of Health.

### References

- Baldwin, J., Johnson, J., & Benally, C. (2009). Building partnerships between indigenous communities and universities: Lessons learned in HIV/AIDs and substance abuse prevention research. *American Journal of Public Health, 99*(1), 77–82.

- Beil, M., Evans, S., & Clarke, P. (2009). Forging links between nutrition and healthcare using community-based partnerships. *Family and Community Health, 32*(3), 196–205.
- Burhansstipanov, L. (1998). Lessons learned from Native American cancer prevention, control and supportive care projects. *Asian American and Pacific Islander Journal of Health, 6*(2), 91–99.
- Burhansstipanov, L., Christopher, S., & Schumacher, A. (2006). Lessons learned from community-based participatory research in Indian Country. *Cancer, Culture and Literacy, 12*(2), 70–76.
- Cargo, M., & Mercer, S. (2008). The value and challenges of participatory research: Strengthening its practice. *Annual Review of Public Health, 29*, 325–350.
- Centers for Disease Control and Prevention. (2009). Retrieved October 12, 2009, from [http://www.cdc.gov/cancer/colorectal/basic\\_info/index.htm](http://www.cdc.gov/cancer/colorectal/basic_info/index.htm).
- Christopher, S., Watts, V., Knows His Gun McCormick, & Young, S. (2008). Building and maintaining trust in a community-based participatory research partnership. *American Journal of Public Health, 98*(8), 1398–1406.
- Christopher, S. (2005). Recommendations for conducting successful research with Native Americans. *Journal of Cancer Education, 20*(1), 47–51.
- Dixon, M., & Roubideaux, Y. (2001). *Promises to keep: Public health policy for American Indians & Alaska Native in the 21st Century*. Washington, DC: American Public Health Association.
- Fisher, P.A., & Ball, T.J. (2003). Tribal participatory research: Mechanisms of a collaborative model. *American Journal of Community Psychology, 32*(3–4), 207–216.
- Foster, J., & Stanek, J. (2007). Cross-cultural considerations in the conduct of community-based participatory research. *Family and Community Health, 30*(1), 42–49.
- Furshong, G., & Wamsley, M. (2009). Colorectal Cancer Screening – the Basics. Presentation at the Montana Cancer Control Programs Meeting (September 24), Montana Department of Public Health and Human Services, Helena, MT.
- Hampton, J.W., Keala, J., & Luce, P. (1996). Overview of National Cancer Institute networks for cancer control research in Native American populations. *American Cancer Society, 78*(7), 1545–1552.
- Holkup, P.A., Tripp-Reimer, T., Salois, E.M., & Weinert, C. (2004). Community-based participatory research: An approach to intervention research with a Native American community. *Advances in Nursing Science, 27*(3), 162–175.
- Holkup, P.A., Rodehorst, T.K., Wilhelm, S.L., Kuntz, S.W., Weinert, C., Stepan, M.B., Salois, E.M., Hand Bull, J.L., & Hill, W.G. (2009). Negotiating three worlds: Academia, nursing science, and tribal communities. *Transcultural Nursing, 20*(2), 164–175.
- Indian Health Service. (2006) Retrieved October 12, 2009, from <http://info.ihs.gov/Files/DisparitiesFacts-Jan2006.pdf>
- Israel, B.A., Eng, E., Schulz, A.J., & Parker, E.A. (2005). *Methods in community-based participatory research for health*. San Francisco, CA: Jossey-Bass.
- LaVeaux, D., & Christopher, S. (2009). Contextualizing CBPR: Key principles of CBPR meet the indigenous research context. *Pimatisiwin, 7*(1), 1–25.
- Mail, P.D., Conner, J., & Conner, C.N. (2006). New collaborations with Native Americans in the conduct of community research. *Health Education & Behavior, 33*(2), 148–153.
- Minkler, M., & Wallerstein, N. (2003). *Community-based participatory research for health*. San Francisco: Jossey-Bass.
- Montana Cancer Control Coalition. (2006). *Montana Comprehensive Cancer Control Plan 2006–2011*. Helena, MT: Montana Disability and Health Program.
- Montana Department of Public Health and Human Services. (2008). Cancer Prevention and Control Central Tumor Registry. Cancer among American Indian Residents of Montana. Helena, MT: DPHHS. Retrieved October 22, 2009, from [http://www.dphhs.mt.gov/PHSD/cancer-control/documents/FAQsAboutCancerinAmericanIndiansinMontana\\_001.pdf](http://www.dphhs.mt.gov/PHSD/cancer-control/documents/FAQsAboutCancerinAmericanIndiansinMontana_001.pdf)
- Partin, M.R., Rith-Najarian, S.J., Slater, J.S., Korn, J.E., Cobb, N., & Soler, J.T. (1999). Improving cancer incidence estimates for American Indians in Minnesota. *American Journal of Public Health, 89*(11), 1673–1677.
- Potkonjak, M. (2004). Tribe sues ASU for \$50M. *Scottsdale Tribune, March 17*, A6.
- Rhoades, E.R. (2003). The health status of American Indian and Alaska native males. *Research and Practice, 93*(5), 774–778.

- Strickland, J. (2006). Challenges in community-based participatory research implementation: Experiences in cancer prevention with Pacific Northwest American Indian tribes. *Cancer Control, 13*(3), 230–236.
- Swan, J., & Edwards, B.K. (2003). Cancer rates among American Indians & Alaska natives. *Cancer, 98*(6), 1262–1272.
- Watts, V., Christopher, S., & Smith, J. (2005). Evaluation of lay health advisor training for a community-based participatory research project in the Apsáalooke community. *American Indian Culture and Research Journal, 29*(3), 59–79.