Northwest Public Health

Spring/Summer 2011 Volume 28 Number 1

Crossing Borders: Shared Public Health Goals

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Underlay, airport terminal in Seattle in 1949. Photo courtesy of the Port of Seattle.

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Working Across Borders

n the last issue of *Northwest Public Health*, I described crossing the country on the way to Seattle. That journey foreshadowed this issue of *NPH*, with its focus on borders. A 2,500-mile road trip from Atlanta crosses a lot of borders—geographic, demographic, economic, political, and cultural. This issue of *NPH* looks at several kinds of borders that operate in public health: political borders such as our nearby geographical border with Canada; demographic borders, often a challenge to social justice; and conceptual borders, which we need to traverse if we are to ask and answer important public health questions.

Geographic borders

Public health problems rarely respect the boundaries of political jurisdictions. Here at UW, our WWAMI program (named for five northwestern states) and our Northwest Center for Public Health Practice collaborate across state lines. In January, public health experts from UW, the University of British Columbia, and Simon Fraser University met at Semiahmoo, near the Canadian border, for conferences on occupational and environmental health and the changing demographics in public health. The shared culture of the Northwest, our shared population trends, our common habitat, even our shared risks of earthquakes as the recent tragedy in Japan reminds us, highlight the need to work across political borders.

Cultural Borders

Another kind of border is demographic rather than geographic: the borders that divide groups of people. Diversity is a central value in public health, for both practical and moral reasons. We do our best work when we integrate diverse points of view. And fairness requires that opportunities be widely and equitably available. We need to create institutional climates that recognize and traverse borders of culture, race, ethnicity, religion, gender, and sexual orientation.

Conceptual Borders

Public health tackles far-reaching and important problems: who gets health care, how to achieve behavior change, how to design healthy communities. Almost none of these problems can be understood and solved using the tools of a single discipline. Many of the determinants of health lie upstream from the health sector, in fields as diverse as agriculture and civil engineering, energy policy and trade policy, housing and education. We need to push ourselves to think broadly, to cross-train ourselves, and to collaborate with professionals from other fields.

Public Health is Global Health

Ultimately, of course, public health crosses all borders. In a globalizing world, people, money, information, goods, behaviors, and diseases travel rapidly and extensively. At the School of Public Health, we take our global role seriously. Our Department of Global Health, housed jointly in the Schools of Public Health and Medicine, aims to close the gap between the one billion people in the world who enjoy relatively good health and the five billion who don't.

I hope you enjoy this issue of *Northwest Public Health*, and I hope it inspires you to cross many borders in your work, in pursuit of our shared goal of health for all people.

Howard Frumkin, Dean UW School of Public Health

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The mission of the journal is to provide a forum for practitioners, teachers, researchers, and policy makers in public health to exchange ideas, describe innovations, and discuss current issues.

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Public Health's Shared Goals

he "Crossing Borders" theme of this issue is especially satisfying because it has been a goal of every issue of this journal to reflect and connect with the diversity of the states and communities of the Northwest region. The journal benefits from having an Editorial Board that crosses the borders of public health practice and academia, and from having authors who bring a wide diversity of practice and academic perspectives.

An article about social capital in Libby, Montana, illustrates how public health issues can benefit from cross-disciplinary approaches. It is also one of four articles whose sole author or first author is a graduate student or recent graduate. The peer reviewers agreed with the editors that these young authors demonstrate high-quality research skills and great potential.

Several articles in this issue provide examples of US-Canada cross-border partnerships, highlighting the work of the Pacific NorthWest Border Health Alliance, the Arctic Council and its Arctic Monitoring Assessment Program, and comparative research on adolescent health indicators on both sides of the border.

Given our position as part of the Pacific Rim, our region has become increasingly connected to global public health issues. We are pleased to have contributions to an article about globally mobile population co-authored by Dr. Marty Cetron, Director for the CDC's Division of Global Migration and Quarantine. Two other articles address aspects of public health for immigrants from Asia and from Mexico.

With almost 300 federally-recognized tribes in this region, understanding and working across tribal borders has been an important part of our public health work. This issue presents three articles that focus on tribal public health issues or programs: an adolescent health initiative from the Northwest Portland Area Indian Health Board, a cross-border initiative to promote sexual health among Arctic communities, and health disparities that affect Montana Indians.

We hope these perspectives can expand the awareness of challenges and opportunities presented by borders, and will inspire additional crossing of borders to advance the public health of the people and communities of our region.

Since 2008, this journal has benefitted from the enthusiastic and capable editorial services of Kathy Hall, who has been responsible for the hands-on development and delivery of five issues, many of which have won awards. Kathy has decided to retire from the university in June. She may be available to serve as advisor and consultant on future issues, but will no longer serve as managing editor. We would all like to thank Kathy for her excellent work and dedication, and wish her well as she explores other activities and opportunities. Look for the next issue of *Northwest Public Health* in spring 2012.

Susan Allan, Editor-in-Chief Director, Northwest Center for Public Health Practice UW School of Public Health





2005 Chlamydia Rates Per 100,000

Not Available	
0.1 - 268.0	
268.0 - 332.5	
332.6 - 1000.0	
1000.1 - 2000.0	
2000.1 - 4679.7	

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North of 60: Cross-Border Partnership for Sexual Health in the Arctic

By Dionne Gesink, Jessica Leston, Melanie Taylor, Scott Tulloch, Lori de Ravello, Wanda White

hile each Arctic community (those north of 60 degrees north latitude) is distinct, Arctic regions of North America share similar social, natural, and built environments, cultural mixes, economies, natural resources, and health care settings. They also share disproportionately high rates of sexually transmitted infections (STIs), adolescent pregnancy, sexual abuse, substance abuse, and suicide.

Arctic communities generally lack access to culturally appropriate health education resources and effective contraception. In the US, higher rates of STIs are reported for Alaska Native and American Indian people than for whites. In Canada, STI surveillance systems rarely collect race and ethnicity; however, evidence suggests an STI disparity for indigenous populations there, as well.

The US and Canada have formed an international partnership to define and address the social and cultural determinants influencing sexual health disparities. A binational summit in Anchorage, Alaska, in 2008 helped foster an international partnership among Alaska Natives in Alaska, and Inuit, First Nations, and Métis in northern Canada.

Summit activities are summarized in the Indian Health Service report, *Sexually Transmitted Diseases among Alaska Native and Inuit, First Nation, and Métis in Canada: Discovering Opportunities for Collaboration.* It identifies opportunities for collaboration in three priority areas: clinical care, prevention interventions and research, and STI education and messaging as they relate to northern communities.

The summit identified several barriers to sexual health. At the community level, social and cultural stigma associated with STI diagnosis discourage people from seeking clinical care, while geographic isolation limits that care and contributes to perceptions that sexual networks are closed, theoretically protecting the community from outside diseases.

Lack of human resource infrastructure, including provider shortages, insufficient training, and high turnover limit STI services. Some participants believed this to be particularly true in communities that lacked a champion to apply for funding or advocate for prioritization of STIs.

Trust was identified as a potential barrier to STI care. Cultural insensitivity of providers was identified as one of the most important barriers to seeking health care—and one of the most easily corrected. Sometimes the solution was as simple as being visible and approachable at community events. Training health care providers to take a proper sexual history and how to ask questions in a culturally appropriate manner could make STI case identification more efficient and reduce provider discomfort.

The indigenous health care provider paradox was identified as a potential barrier to care. Even when Alaska Native, First Nations, Inuit, and Métis health care providers were available, they may feel uncomfortable asking certain community members questions related to sexual risk because of cultural protocols, especially if the patient is older than the health care provider.

These common barriers of limited health care resources, competing health care interests, health care system and provider mistrust, and cultural insensitivity all transcended differences in American and Canadian health care systems. Overcoming them presents an opportunity for collaboration across borders and communities. Active community participation in the development and implementation of interventions is essential, along with support from local community leaders and influential community members.

Immigration Policy: Migration Patterns

By Nora J. Kleinman







The US has long been a nation of immigrants– frequently referred to as a "melting pot" or more recently a "salad bowl." Legislation over the last 100 years has influenced the number and composition of immigrants.

In the early 1900s immigration legislation was enacted piece by piece. This changed in the 1920s with the passage of the National Origins Act, which restricted the number of immigrants who could enter the US and established a quota system based on country of origin. The Western Hemisphere had no quotas and quotas for northern and western Europe were relatively generous. Immigration from eastern and southern Europe was severely limited; immigration from Asia was excluded.

In 1965, immigration laws changed dramatically with the passage of the Hart-Cellar Act, which replaced the national quota system with hemispheric caps and preference groups. Those given preference included individuals with relatives in the US or those with jobs seen as critical by the Department of Labor.

The Immigration Reform and Control Act of 1986 created sanctions for employers who knowingly hired illegal immigrants, increased enforcement at US borders, and legalized certain agricultural workers and undocumented aliens who had lived in the US continuously since 1982. This led to large numbers of recorded immigrants in 1989, 1990, and 1991. All data was provided by the Department of Homeland Security. Regions represent location of birth and follow the 2010 DHS definitions.

Author

Nora J. Kleinman is an MPH student in Epidemiology at the University of Washington. She is a research assistant on the Northwest Center for Public Health Practice's evaluation team.



By Erika Färdig, Heather Hastings, Laura Vonnahme, Peter Houck, Martin Cetron

ne of the questions we commonly hear at the Seattle Quarantine Station is, "So, whom do you quarantine?" The word "quarantine" is derived from the Italian *quaranta giorni*, referring to the 40 days that ships were detained in port to prevent the entry of diseases such as plague. With increased air travel and population



US Public Health Service doctors circa 1925. Photo courtesy California State Parks, State Museum Research Center. migration in recent decades, the role of quarantine stations now includes planning and surveillance activities, risk communication, creating emergency plans and conducting preparedness exercises, and building partnerships.

The Past

Historic ports of entry such as Ellis Island, New York, are enduring symbols of US immigration history in which quarantine stations played a major role. During the great waves of immigration in the late 1800s and early 1900s, immigrants were inspected for signs of communicable illnesses by staff at stations throughout the country. By the 1970s, smallpox was eradicated, antibiotics and immunizations had become widely available, and communicable diseases were no longer considered such a threat. As a result, the US quarantine system was reduced from 55 stations and 600 staff to seven stations and 37 staff, and medical officers were removed from field assignments. The system was expanded again in preparation for the 1996 Olympic Games, and after the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak to 20 stations and more than 60 field staff, including medical officers.

Seattle's Quarantine Station, in the Seattle-Tacoma International Airport's south terminal, is one of the original stations. Its mission is to use the best available science to prevent the importation and spread of communicable diseases from international flights and sailings. These diseases include the nine that are quarantinable under federal law—cholera, diphtheria, tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers, SARS, and pandemic influenza—and others that are of public health importance such as measles and meningococcal disease.

During the 1970s, more than half a million Vietnamese refugees arrived in the US, many of them coming to Washington State. All of these refugees were examined visually by Quarantine Station staff and their medical paperwork was forwarded to health authorities in the resettlement location. Than Lerner, a public health officer with the Seattle Station, was able to speak with the refugees in their own language. She recalled one refugee; "One man was very tired, and we gave him a place to rest. We later learned that he had lost his wife and children at sea." Mental health problems and malnutrition were common health concerns, as were communicable illnesses that were easily spread among people in crowded refugee camps and long sea voyages.

The Present

Washington is among the top 10 states where newly-arrived refugees resettle. Twelve percent of its population is foreign-born, an increase from 6.6 percent in 1990. Today's foreign-born residents of the state are diverse, coming from over 130 countries.

As demographics change and new public health needs emerge, the Seattle Quarantine Station continues to serve as a gateway for newly arriving immigrants. King County attracts most new arrivals, but smaller and more rural counties such as Adams and Franklin also reflect the demographics of immigrant and refugee settlement. Migrants are often drawn to these smaller communities by employment opportunities and knowledge that others from their countries have settled in these areas.

SE REFUGE

DOCHINESE

Large numbers of new arrivals can pose challenges for resource-limited health departments. For example, the cost of one case of TB diagnosis and treatment can strain the capacity of these communities to provide care. The Seattle Quarantine Station is broadening its focus to help public health departments address the needs of immigrants and refugees after they arrive. Unlike previous eras in which medical exams were performed at the point of arrival, immigrants and refugees now receive health screening for diseases like tuberculosis in their home countries. Refugees now enter the US through a handful of ports. When immigrants arrive at Seattle-Tacoma Airport, their visa materials are collected by US Customs and Border Protection officers; the medical examination forms are reviewed by quarantine station staff and electronically forwarded to health departments for follow up. Seattle Quarantine Station staff review more than 7,000 immigrant medical exam forms each year.

One concern for local public health agencies is latent tuberculosis infection. In 2009, the Seattle Quarantine Station reviewed medical exams for nearly a thousand people who had latent tuberculosis. Generally, these people are contacted by the health department to arrange for a follow-up exam, but budget constraints are limiting these services. The Seattle Quarantine Station is working with Public Health - Seattle & King County to prioritize which immigrants need follow-up care and increase the proportion who access care quickly after their arrival.

Over time, the role of the quarantine station has changed to respond to the needs of a more diverse and highly mobile population. In an era of rapid, relatively inexpensive international transit and, with it, rapid disease transmission, the quarantine system has developed new approaches.

Seattle Quarantine Station staff are coordinating with state and local partners to complete an epidemiologic profile of the health of refugees so as to give a better indication of health services needed, both overseas before refugees enter the US and from health departments after they arrive. Staff are creating detailed maps and databases of foreignborn residents, and will analyze these data along with the health issues faced by different migrant populations. This combination of disease prevalence and demographic data will help local public health partners make the best use of scarce resources.

The Future

In years to come, the Seattle Quarantine Station will be as critical as ever. To protect the health of the public, station staff will continue to respond to hundreds of reports of suspected communicable illness in travelers each year and plan for response to large-scale public health emergencies. The station will continue to distribute investigational pharmaceuticals that are available only from the Centers for Disease Control and Prevention (CDC), including intravenous drugs for severe malaria and antitoxins to treat diphtheria and botulism. They will ensure that regulatory requirements are met for immigrant and refugee health exams and for importation of animals or cargo that could affect human health. In addition to fulfilling their continuing port-based mission, station staff will increase their collaboration with health department partners to identify the most significant communicable illness issues in the migrant community and address new health challenges. ■

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A table of foreign-born population by country of birth in Washington State (2005-2009) is available: www.nwpublichealth.org



At top, historic quarantine station stamp used to process arriving refugee paperwork. Above, Seattle quarantine Station staff (center) process immigrant medical paperwork with US Customs and Border Protection colleagues. Both photos courtesy of Heather Hastings.



Teens can be encouraged to participate in healthy activities. Photo courtesy Patrick O'Carroll.

Second Decade Project: Lifelong Benefits of Early Intervention

By Julia Yoshino, Patrick O'Carroll

he populations on the two sides of the Washington-British Columbia border look a lot alike—similar age distribution, racial and ethnic diversity, educational attainment and income. In some important ways, however, they differ with regard to governmental policies for health and social services.

This presents Pacific Northwest researchers with rich opportunities to conduct comparative research involving populations on both sides of the border. Unfortunately, comparative research using existing data sets is hampered by our inability to do apples-to-apples comparisons, due to differing data collection methods and standards in the US and Canada.

Our Project

The leadership of the US Department of Health and Human Services (HHS) in Region X (Alaska, Idaho, Oregon, and Washington) has taken a special interest in health promotion and disease prevention during the second decade—10-19 years of age. The purpose of the Second Decade Project, launched in 2010, is to maximize health and healthy development among people in this age group by coordinating and integrating the many interventions and activities relevant to their health. This project is in coordination with the HHS Office on Adolescent Health, which supports multidisciplinary projects focused on improving adolescent health, collects and disseminates information on adolescent health to health professionals and the general public, and works in partnership with other HHS agencies to support evidence-based approaches to improving the health of adolescents.

During the second decade, adolescents make a wide variety of personal decisions and establish lifelong patterns of behavior that affect health later in life—whether or not to try cigarette smoking, for example, or to experiment with illicit drugs. By age 20, most young people have established fairly persistent dietary and exercise patterns that may be healthy or unhealthy in the long term. For many adolescents, sexual activity and alcohol use begin during this decade, which can range from relatively low-risk in some circumstances to extremely dangerous in others. Because so many important health-related behaviors have their inception during the second decade of life, helping adolescents make healthy choices and develop healthful behavior patterns during this life stage could have enormous, lifelong health benefits.

Why Does Cross-Border Research Matter?

Cross-border comparisons hold the promise of evidence-based explorations of which policies are most effective in promoting health and preventing disease, injury, and unwanted pregnancies—whether related to the second decade of life or any other health focus. Such comparative research has been effectively conducted in the past, for example, to compare the impact of firearm regulations on the rate of suicide among adolescents and young adults living in King County, Washington, and the Vancouver area of British Columbia. Myriad important health policy questions remain, of course, such as how teen pregnancy rates and infant health are affected by Canada's universal health coverage as compared to reproductive health services provided via personal health insurance, Medicaid funding, and Title X Family Planning program funds on the US side of the border.

What Did We Find?

Using the potential for cross-border comparative research in the Pacific Northwest, we explored several key adolescent health indicators (see table for a few of them). In Washington State, trends in adolescent health are monitored through the biennial Healthy Youth Survey (HYS), which collects data on the health risk behaviors of 6th, 8th, 10th, and 12th grade students throughout the state. The risk behaviors of British Columbia youth are monitored using the Adolescent Health Survey (AHS), which is administered to 7th through 12th graders every five years.

Based primarily on data from the most recent cycles of the HYS and AHS, we found interesting

similarities in the proportion of teens who were overweight, used alcohol, and were involved in fatal motor vehicle crashes. However, most of the reported health indicators could not be directly compared, given differing methods of data collection and reporting used in the US and Canada. For example, most of the HYS data were broken down by grade level in the final data report, whereas the AHS data were primarily aggregated.

Where Do We Go From Here?

To foster productive comparisons of health and health policies across the US-Canada border, we need to harmonize how we collect data on health and health risk behaviors. Academic symposia are already held annually, involving the University of Washington, University of British Columbia, and Simon Frasier University, to encourage collaboration among Pacific Northwest health researchers. These symposia could make an ideal platform for tackling this issue. From a policy stand point, facilitating cross-border comparative research could allow the best of both worlds to come together, creating optimal disease prevention and health promotion programs and policies for everyone.

Authors

Julia Yoshino is pursuing a MPH degree in Epidemiology with an emphasis in Maternal and Child Health at the University of Washington's School of Public Health. Patrick O'Carroll, MD, MPH, FACPM, FACMI, is the Regional Health Administrator for US Public Health Service Region X. He is an Affiliate Professor in Epidemiology and Health Services at the University of Washington's School of Public Health.

Key Adolescent Health Indicators

	Washington (2008)*	British Columbia (2008)**
Cigarette Smoking	15% of high school students smoked during past 30 days	26% grades 7-12 ever smoked
	6th grade: 4% ever smoked a whole cigarette (1% in past 30 days)	22% grades 7-12 smoked a whole cigarette
		No breakdown by grade level
	8th grade: 13% ever smoked a whole cigarette (7% in past 30 days)	
	10th grade: 25% ever smoked a whole cigarette (14% in past 30 days)	
	12th grade: 34% ever smoked a whole cigarette (20% in past 30 days)	
Diet and Nutrition	8th grade: 28% ate 5+ fruits/vegetables per day	41% grades 7-12 ate 2+ fruits previous day
	10th grade: 25% ate 5+ fruits/vegetables per day	32% grades 7-12 ate 2+ green salad/vegetables
	12th grade: 22% ate 5+ fruits/vegetables per day	
Physical Activity	43% of high school students met physical activity guidelines	25% of males and 11% of females grades 7-12 exercised daily in past week
	10th grade: 49% of males and 38% of females met guidelines	

* Washington State Healthy Youth Survey (school-based, surveys grades 6, 8, 10, 12) **Adolescent Health Survey (school-based, surveys grades 7-12) A more extensive table appears online: www.nwpublichealth.org. Further information can be found at the office of Adolescent Health: www.hhs.gov/ash/oah/.

nvironmental Health Threats: Eight Arctic Nations Collaborate

By Michael Bradley

Ver the past 100 years, Arctic populations have been exposed to tremendous social, technological, and demographic changes, struggling to find ways to manage. The past three decades have brought new threats—increasing environmental contaminants and dramatic climate changes. These changes threaten the subsistence lifestyle and traditional foods that not only provide nutrition, but also form the social, cultural, and economic underpinning of Arctic peoples.

These challenges are not confined by borders, and thus a new entity was formed to provide the guidance and leadership to address these issues. Threats to the Arctic environment, environmental protection, and sustainable development were the major issues leading to establishment of the Arctic Council. The Ottawa Declaration of 1996 formally established the Council to provide cooperation, coordination, and interaction among the Arctic states. The member states are Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the US. The Arctic Council provides leadership in three major areas of environmental health.

Persistent Environmental Pollutants

Toward the end of the 20th century, studies showed that some Arctic populations were exposed to high levels of environmental contaminants. These contaminants are carried from other regions of the globe and accumulate in traditional food species.

To assess this important health issue, the eight nations of the Arctic Council formed the Arctic Monitoring and Assessment Programme or AMAP in 1991. The AMAP advises the eight national governments on persistent environmental contaminants in the Arctic. Under AMAP, focused and coordinated research over the past two decades has done much to identify occurrence, transport pathways, levels, and health impacts of persistent organic pollutants, heavy metals, radionuclides, acidifying pollutants, and petroleum hydrocarbons. As a result of these efforts, a fairly clear picture of contaminants in the Arctic is now understood. The highest levels of contaminants are found in Russia and Greenland. The levels in Russia are from industries that emit a wide spectrum of contaminants. The levels in Greenland can be explained by ocean current patterns that carry contaminants in Arctic waters from the Arctic Ocean to the Atlantic on either side of Greenland.

The Arctic remains a generally clean environment, despite some hot spots. Industries in northeastern Europe emit significant amounts of many contaminants. Rivers in Russia that drain into the Arctic Ocean are contaminated with polychlorinated biphenyls (PCBs) and pesticides, which accumulate around eastern Greenland and the Canadian High Arctic. Humans are exposed to these pollutants through the food chain; indigenous Arctic populations that rely on predator marine mammals have the highest exposures.

AMAP has published updates on various aspects of contaminants in the Arctic, beginning with the

Author

Michael Bradley, DVM, MPH, is the Emergency Preparedness Program Manager for the Alaska Native Tribal Health Consortium. 859-page AMAP Assessment Report: Arctic Pollution Issues, published in 1998.

Climate Change

More than two decades ago, indigenous people began to notice significant changes in the Arctic ecosystem, specifically in sea ice, permafrost, erosion, storm patterns, and distributions and abundance of species. The Arctic Council formed a steering committee to provide scientific oversight and coordination of efforts to assess the impacts of climate change in the Arctic.

This effort ultimately involved 300 scientists and technical experts divided into working groups that addressed topics as diverse as ozone and ultraviolet radiation; marine, fresh water and terrestrial ecosystems; biodiversity; fisheries, forests, land management, and agriculture; coping and adaptive strategies; and human health.

This five-year effort culminated in the Arctic Climate Impact Assessment Report, published in 2005.

The report confirmed what many indigenous people already knew. Dramatic changes were occurring in the Arctic at a more rapid pace than in other regions. One example of a change with significant impacts is shrinking sea ice. Over the past few decades, sea ice has been slowly shrinking; in recent years the retreat has accelerated. Among other effects, fall storms along the northwest coast of Alaska

have been more destructive because firm pack ice no longer protects shorelines; shoreline destruction is threatening some Alaska communities in this region. Should sea ice continue to shrink, polar bear, seal, and walrus populations dependent on sea ice will be severely stressed and may face extinction.

Zoonotic and Infectious Disease of Animals

Arctic scientists recently collaborated to explore surveillance strategies for zoonotic diseases—diseases of animals that can also infect humans. Diseases of concern are brucellosis, tularemia, toxoplasmosis, Q fever, trichinella, giardia, echinococcus, rabies, and arboviruses including Jamestown Canyon virus, Northway virus, snowshoe hare virus, and Klamath Falls virus. The concern is that, with climate change, the occurrence patterns of these diseases may change. Host species may expand to different regions, different hosts may become infected, and the threat to humans may increase.

The initiative began in Alaska in the summer of 2010 and has expanded to Sweden.

Impacts

Research protocols developed by AMAP have been used as models to assess contaminant impacts in other countries. Protocols to measure contaminants in pregnant women and potential health effects on newborns have been adopted in Argentina, South Africa, and Vietnam.

By far the biggest impact has been the Stockholm Convention on Persistent Organic Pollutants. Contaminant research efforts that demonstrated global transport pathways and bioaccumulation through the food chain were a driving force for international efforts to eliminate or limit

the 12 most dangerous persistent organic pollutants. As of January 2011, 172 parties had signed on to the convention.

Arctic Council 2011

The Arctic Council has continued to evolve to meet the demands and challenges of Arctic peoples. In addition to the eight Arctic nation members, six Arctic indigenous communities now have the status of Permanent Participants on the Council. These



The eight Arctic nations: Canada, Denmark, Finland, Iceland, Norway, Sweden, Russia, and the United States. Map courtesy Hugo Ahlenius, UNEP/GRID-Arendal.

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"Ice is a supporter of life. It brings the sea animals from the north into our area. When it freezes along the shore, we go out on the ice to fish, to hunt marine mammals, and to travel... When it starts disintegrating faster, it affects our lives dramatically."

> – Caleb Pungawiyi, Nome, Alaska Arctic Climate Impact Assessment (ACIA) 2005

groups are represented by the Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Council, Russian Association of Indigenous Peoples of the North (RAIPON), and the Saami Council.

Six working groups are addressing issues of concern: the Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency Prevention, Preparedness and Response (EPPR), Protection of the Arctic Marine Environment (PAME), Sustainable Development Working Group (SDWG), and the Arctic Contaminants Action Program (ACAP).

Photo on page at left, an Eskimo hunter in the early 20th century watches for a seal from an ice floe near Nome. Photo courtesy Alaska State Library, George A. Parks Collection, 1911-1933, ASL-P240-210

Hidden Health Concerns: Asians & Pacific Islanders Tell Their Stories

Bv Gabriel Garcia

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sians and Pacific Islander (APIs) are the second-largest and fastest-growing minority group in Alaska. During the past decade, Asians (including Filipinos, Hmongs, Cambodians, and Koreans) grew by almost 90 percent and the Pacific Islanders (including Samoans, Tongans, and Native Hawaiians) grew by 201 percent. About 63 percent of the growth is due to migration from Asian countries. Currently, APIs make up six percent of the State's population; by 2015, they will make up close to 25 percent. While APIs make up a significant portion of Alaskan population, statistical information regarding their health conditions is limited. In statewide health surveys, such as the Behavioral Risk Factor Surveillance Systems Survey, their sample size is too small to produce valid estimates.

The lack of health data among Alaska's APIs may cause us to overlook the importance and urgency of some of their health problems and needs, which can become critical if not addressed early. To identify and understand the health concerns of APIs, I recently conducted key informant interviews with 10 API community leaders and worked with colleagues in interviewing and conducting focus group discussions with 17 API youth. Both of these exploratory studies were conducted in Anchorage, where most of the state's APIs reside. Key informants and youth participants were recruited via referrals from community-based organizations that predominantly serve APIs. Interviews were semi-structured and questions were mostly open-ended. A list of possible issues (e.g., alcohol, smoking, suicide, access to care) was provided for interviewees' comments. Interviewees come from the largest API subgroups in Anchorage, including, Filipinos, Koreans, Hmongs, Samoans, and Tongans. Youth interviewees were between 16 and 19, and about half of them were US born. The adult key informants were between 18 and 80, and 80 percent of them were immigrants who have been living in Alaska for more than five years.

Issues Among Youth

Among API youth, underage drinking was perceived to be a common problem. Most youth respondents know of peers who drink alcohol. They said their peers can easily obtain alcohol in three ways: alcoholic beverages unattended at home, an adult buys alcohol for them, or friends or relatives encourage them to drink during parties. In a few instances, minors were served alcohol at businesses. One said, "There's a lot of underage drinking. Just recently... a couple of Korean karaoke businesses were hit with a fine for serving alcohol to minors."

Teen pregnancy was a concern for both age groups. One interviewee said, "The numbers in terms of young women not graduating high school are very high because at 15 and 16, they get pregnant... I can say that because my sister was one of them." Youth respondents share this perception. Most of them knew peers who got pregnant while they were in high school. They cited a lack of access to contraception, alcohol, experimentation, curiosity about sex, and inadequate sex education. Youth respondents said they and their peers learn about sex and safe sex only from school or friends. Many were not comfortable talking about sex with their parents.

Most of the youths interviewed said they experienced stress and depression, or saw it in their peers. Many felt pressured by parents to get straight As. One said about her mother, "I wouldn't even go to her and show her my grades anymore. Because I knew she would yell or she wouldn't like it." Stress can lead to depression. A key informant mentioned that many youth in their community feel "depressed" because of being "pushed hard" by their parents to excel in school because, if they fail, they are viewed as a "disgrace" in the family.

Adults and Elders

Our adults and elders mentioned chronic diseases as a major health concern. According to one Tongan

informant, "The issues of diabetes, high cholesterol, and high blood pressure are huge in our community. My dad has high blood pressure and high cholesterol. And then my mom, she was diagnosed with diabetes... I also have a lot of aunts and uncles that have diabetes."

Some interviewees saw domestic violence as problem in their communities. "I see a lot of women being abused by their husbands," said a Korean leader, "it goes unnoticed because the whole idea of submission...probably women don't want to voice out, speak out." One Tongan leader said, "I think domestic violence is one thing that's been huge... I can say all my cousins I've had to sit down and counsel because they were in abusive relationships..." This problem was echoed by one of the Hmong interviewees, who said domestic violence is "absolutely" a problem in their community and that she has experienced it in her personal life.

Mental health problems are another issue. A Hmong informant said, "[The elder refugees] have depression, traumas, you name it... because many of these people here... were in a war, and have nightmares when they're thinking about their homeland." One Filipino informant said, "...[A]ll of a sudden we have a lot of seniors that came from the Philippines... [these seniors] live in dilapidated place[s]. They really don't know where to go. It's a cultural shock on their part. Some of them came here just themselves and they're struggling here."

Several interviewees mentioned a lack of access to health care services. Many voiced concerns about segments in their population that are uninsured. "Many [of our] seniors don't have access [to health insurance]," said one of the Filipino informants. In the Korean community, one informant said, "A lot of Koreans are uninsured... My parents... they just can't afford insurance." A Chinese informant said, "I think... those [Chinese] restaurant owners and those who work for restaurants, usually they don't have medical insurance. They don't because it's too expensive."

Even if APIs have health insurance, they find it hard to access needed services or may not know about the health services available to them. Others, particularly elders, may not have transportation to their health care providers. According to a Filipino informant, "[Many seniors don't know] how to access Medicare and so forth; even transportation to their doctor. Many seniors don't have that access. Or they don't know what's available to them."

Finally, many informants said community members with limited English proficiency may put off going to their health care providers because of fear, embarrassment, or frustration from not being able to accurately explain their conditions. Parents with limited English often rely on their children to interpret for them; while the children usually understand the questions doctors ask their parents, they often do not know how to explain their parents' health concerns to the doctors.



A Hmong community leader in Achorage. The Hmong population in Alaska has grown significantly in the past decade. Photo by Stephen Nigl of Adrift Photography.

Why This Matters

APIs make up a significant portion of the Alaskan population. Although statistical data on their health conditions is limited, from the perspective of a select group of API leaders and youth in Anchorage, underage drinking, teen pregnancy, stress, and depression are common among youth, while diabetes, hypertension, domestic violence, depression, and reduced access to health care services are common among adults and elders.

While findings from these interviews can't be generalized to a larger population and are subject to self-report and interviewer bias, they reveal important issues and concerns in the API community and provide initial data for advancing research and developing programs for Alaska's APIs. Study findings underscore the importance of oversampling APIs in state health surveys to capture valid rates of their key health outcomes and to better prioritize their needs. Moreover, to help address health problems among APIs, findings suggest improving their access to health services in the community and schools, supporting and broadening interpreter services, enhancing cultural competency among providers, and resolving generational conflicts within families.

Partners in Health (*Compañeros en Salud*): Helping Families Help Themselves

By Matthew Keifer, Linda Powell, Nicole Stickney, Rachel Schwartz

A lex Chavarria's father had diabetes and was having a difficult time controlling his blood sugar levels. The entire family enrolled in *Compañeros en Salud* to learn how to live a healthier lifestyle and to help Mr. Chavarria control his diabetes.

"We are so grateful for the Idaho Partnership for Hispanic Health!" writes Alex. "As we took the classes, things started to make sense.... It really



Above, the Chavarria family smiles for the camera. Photo courtesy of Linda Powell.

comes down to little changes. They have given us a foundation of health that will be blended with our old traditions to create a new tradition of health." *Compañeros en Salud*,

or Partners in Health, is a community-based intervention focused on reducing the risks of metabolic syndrome among Hispanics in Weiser and Mountain Home, Idaho. The project is funded through the National

Institute on Minority Health and Health Disparities. The program uses a *promotora* model, or community health outreach workers who are indigenous to each community. An overall focus is on community capacity building. IPHH provides funding for four full-time and two part-time positions and supports local businesses by buying locally, as much as possible.

The program collects physiological and behavioral data, both before and after eight-week group educational sessions focused on how to eat better and live a more active lifestyle. Weekly home visits reinforce and support participant's health goals. The physiological data include height, weight, hip and waist circumference, blood pressure, total cholesterol, LDL and HDL cholesterol, triglycerides, and A1C blood sugar measures. The behavioral data include completion of Rapid Eating Assessment for Patients (REAP) and Rapid Assessment of Physical Activity (RAPA). Participants, who must be 12 and older, meet with a clinician to identify any significant health conditions that may need referral.

Families are randomly selected for three groups each year from pools of pre-enrolled families in Weiser and Mountain Home, two rural communities in southwest Idaho. Although the entire family attends these group sessions, the children are led by 4H staff, while other volunteers work with infants and toddlers. This arrangement allows the parents to focus on the program sessions while providing ageappropriate information on nutrition and physical activity to younger participants.

Research generally shows that recent immigrants to the United States do not enjoy the same health status as people born here, due in part to limited access to culturally and linguistically relevant health services. Recognizing this, the IPHH Community Advisory Board and Core team revised the curriculum to incorporate information on the different styles of life in Mexico and in the US. This includes eating and physical activity behaviors and the use of traditional medicines. IPHH seeks to foster a conversation with participants on the impact of birth place and customs on health outcomes. Since spring 2008, 227 Idaho residents have completed *Compañeros en Salud*. Each cohort has 22 to 41 participants with an average of 32 individuals. Seven cohorts have participated in Weiser and one in Mountain Home.

Results

Combined data for the fall 2008, spring 2009, and fall 2009 cohorts show that at baseline, 38 percent of our participants met the physiological requirements for having metabolic syndrome and 79 percent were at risk; 82 percent of our participants had a body mass index (BMI) at or above the normal limit of 25. At postintervention 79 percent of at-risk participants showed improvement in one or more traits. From pre-to-post:

- 57% of participants had a reduction in weight
- 40% had a reduction in BMI
- 48% had a reduction in waist circumference
- 51% reduced their triglycerides

• 50% lowered their blood pressure (reduction in BP defined as reduction in systolic or diastolic BP in addition to NO increase in either)

• 45% increased their HDL (good) cholesterol

The Rapid Assessment of Physical Activity 1 (RAPA) scores how people's levels of reported physical activity changed from pre-to-post. Scoring for the RAPA goes from 1 (sedentary) to 7 (active). Any number less than 6 is suboptimal. As measured with the Rapid Eating Assessment for Participants (REAP), healthy eating behaviors increased from pre- to postintervention. The aim is for healthy eating behaviors, such as consumption of fruits, vegetables, and whole grains, to increase in the "usually/often" categories and consumption of unhealthy foods (fried, high fat) to increase in the "rarely/never" category.

The Future

Partners in Health will continue to operate as the intervention phase of our research project in both Weiser and Mountain Home through 2013. The project could potentially continue into 2016. Sustaining the project over the long term will involve close collaboration with our local clinical partners, Weiser Memorial Hospital and Elmore Medical Center, both rural critical access hospitals. Our program could be easily integrated into wellness programs at those hospitals. Our staff are bilingual, a major advantage in these small communities.

In order to reach more individuals, our Community Advisory Board asked staff to make our curriculum available to anyone who wants to use it within their own community. Our new website, *www.IDPHH.org*, contains our online *promotora* training and Partners in Health curricula. By the end of 2011, the entire website and all curriculum modules will be available in Spanish as well as English. ■

Authors

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Activity level after participating in the program

Surfing & Texting for Health: Project Red Talon Targets Native Youth

By Stephanie Craig Rushing, David Stephens, Jessica Leston, Wendee Gardner

edia technologies, including the Internet, cell phones, and video games, are increasingly being used by health professionals to reach tech-savvy youth on sensitive health topics. Online virtual worlds, for example, can help educate about vaccination and the flu, and text messaging can generate birth control reminders.

Media approaches can be tailored to the maturity level and interests of the individual, disseminated broadly regardless of geographic location, and privately accessed when and where the individual is ready. Media technologies hold great promise for public health practitioners as vehicles for health education, intervention, and data collection. While several studies have informed the development of technology-based interventions targeting mainstream youth, no such data have been reported for American Indian and Alaska Native (AI/AN or Native) teens and young adults.



Native youth are more likely than their peers to give birth during their teens, be diagnosed with chlamydia, or engage in cigarette use, binge drinking, and illicit drug use than those from other racial and ethnic groups. Unfortunately, despite the obvious need, few health interventions have been designed for or evaluated in Indian Country.

Native Youth Media Survey

In 2009 Project Red Talon (a STD/HIV prevention project housed at the Northwest Portland Area Indian Health Board) surveyed more than 400 Native teens and young adults (ages 13-21 years) in Oregon, Washington, and Idaho about their use of media technologies like the Internet and cell phones, and where they go for health information.

Community-based participatory research (CBPR) strategies helped define the study's objectives, review the survey tool, and collect the data. Tribal health educators reviewed the data to make sure the intervention is appropriate to their culture, needs, and organizational capacities. Native youth suggested possible media strategies and design options.

Results found technology use to be exceptionally common and diverse among survey respondents, mirroring patterns reported by teens in the general US population. Seventy-five percent of Northwest (NW) Native youth said they used the Internet, 78 percent reported using cell phones, and 36 percent reported playing video games daily or weekly. Fewer than three percent reported never using computers or the Internet and only six percent reported never using cell phones.

Like other US teens, AI/AN youth said they engaged in a wide variety of online activities. The vast majority of respondents reported having a profile on a social-networking site like MySpace or Facebook (87 percent), watching videos on sites like YouTube (77 percent), and posting photos online (71 percent). A significant proportion of youth reported using the Internet for news or information about sports or entertainment (68 percent), and to get news or information about American Indian events, politics, culture, or their tribe (63 percent).

AI/AN youth reported searching online for health information, including diet, nutrition, exercise, or fitness (50 percent); a specific illness or medical condition (47 percent); drugs or alcohol (42 percent); sexual health, STDs, or HIV (32 percent); and depression, anxiety, stress, or suicide (32 percent). When offered several sources to choose from (ranging from parents to friends), 35 percent said they would feel most comfortable getting sexual

Below, participants in Project Red Talon surf the web. Opposite page, logo from Project Red Talon. Both images courtesy Stephanie Craig Rushing. health information from the Internet, and 44 percent reported having done so in the past. Cell phone use was common among AI/AN teens and young adults. More than one-third of survey respondents sent and received more than 40 text messages per day, similar to national figures.

Tribal Recommendations

When asked about potential intervention strategies, tribal partners said Internet-based skillbuilding tools would be most useful for their community, followed by informational websites, electronic assessment or diagnostic tools, and programs that offered youth live instant message or text counseling with an expert. Participants expressed concern about interventions that were labor intensive or required technical expertise.

Tribal Intervention Strategies

Guided by this data, Project Red Talon sought and received funding in 2010 to adapt and evaluate several technology-based interventions targeting NW Native youth:

Native VOICES Adaptation Project. The goal of the Native VOICES project is to develop an evidence-based sexual health video for the NW tribes that will provide young people with accurate risk information and demonstrate culturallyappropriate strategies for encouraging condom use and enhancing partner communication.

The project is supported by a three-year grant from the Indian Health Service, through its Native American Research Centers for Health (NARCH) program. The project is working closely with tribal and Indian Health Service partners to adapt a CDCrecognized intervention, Video Opportunities for Innovative Condom Education and Safer Sex (VOICES). Tools include a series of talking circles, individual interviews, and community feedback sessions with urban and rural AI/AN teens and young adults (15-24 years old), and consultation with tribal clinicians and health educators.

It's Your Game (IYG) Adaptation Project. Project Red Talon received funding to adapt a multimedia sexual health program for AI/AN youth 12-14 years old, called *It's Your Game...Keep it Real* (IYG). Partners include the Alaska Native Tribal Health Consortium, Intertribal Council of Arizona, Indian Health Service, the Bureau of Indian Education, Tribal Boys and Girls Clubs, the University of Texas Prevention Research Center, and Oregon Health and Sciences University. The threeyear project is funded by the Centers for Disease Control and Prevention.

Project Red Talon will work with NW tribes to culturally adapt this Internet-based HIV, STI, and pregnancy prevention program for Native youth. Its second phase will recruit and follow 400 NW Native youth to see if it delays sexual initiation, reduces sexual activity, and increases condom use.

Multimedia Health Project. Finally, a new multimedia website will feature resources for Native teens and young adults that promote holistic health and positive identity and development. It is funded by the President's National HIV/AIDS Strategy and the Indian Health Service's National HIV/AIDS Program. The site will address the health and social issues that are most important to Native youth, as determined by the 2009 Native Youth Media survey and further listening sessions with Native teens.

Native youth, elders, and topical experts from throughout the US will serve as authors of blogs, directors of videos, and graphic design artists. MySpace, Facebook, Twitter, and a health text messaging service will send out periodic health tips and promote contests and social service opportunities. These services will all be launched in 2011.

Conclusion

No two youth are the same. Integrated, multimedia approaches offer the best opportunity to reach the greatest number of NW Native youth with important health information. While Project Red Talon's focus is on STD/HIV prevention and sexual health, its findings suggest a more holistic health framework for other health concerns of Native youth.

The technology-based interventions created by Project Red Talon will incorporate traditional and contemporary design elements, teaching strategies, healing practices, and wellness models. The interventions will invite repeated use through incentives and contests, text message and e-mail reminder systems, and fresh, entertaining, and challenging content.

Together, these projects will help fulfill Project Red Talon's multimedia strategic plan—creating user-friendly health resources made by and for Native youth.



Authors

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Tribal Borders: Confronting Health Disparities & Accessible Care

By Annjeanette Belcourt-Dittloff, Gyda Swaney, Gordon Belcourt

ative Americans face extensive and complex health disparities. These disparities reflect widely acknowledged social determinants of health, including poverty and racism. Legacies of discrimination and oppression interfere with access to quality and culturally appropriate health care, and educational and economic opportunities. The reality of human suffering faced by many Native Americans can overshadow the strengths and solutions that can be found within tribal communities. We provide a brief overview of the relative health disparities, barriers to health, and potential future directions for Montana's Native communities.

Montana Disparities

Native Americans living in Montana have a lower life expectancy (67.2 years) than both the US average (75.8 years) and all Native Americans nationwide (71.1 years). Native American women

Poverty in Montana

Reservation	Poverty Rate 2000	Unemployment Rate 2005	Free and Reduced Lunch Eligibile Kids (2010)
Blackfeet	34%	69%	82%
Crow	31%	47%	90%
Flathead	20%	24%	56%
Ft. Belknap	39%	70%	80%
Ft. Peck	35%	54%	83%
Little Shell	37%	Not Available	Not Available
N. Cheyenne	46%	60%	91%
Rocky Boy's	41%	68%	85%
All Reservations	30%	52%	Not Available
Montana	14%	7%	38%

Adapted from data reported in the Montana Poverty Study 2010 Haynes G, Haraldson J. Montana's Poverty Report Card: Reservation Segment: Montana State University; 2009. http://www.montana.edu/extensionecon/montanacountydata.html

in Montana are more likely than those from other racial or ethnic groups to experience health problems, such as obesity, hypertension, and diabetes. In Montana, Native Americans are significantly more likely to die of traumatic causes (accidents, suicide, or homicide) than whites (19-20 percent vs. 8 percent). Montanans die from traumatic brain injury 66 percent more frequently than the national average, and Native American males are at the highest risk. Infant mortality in Montana and Wyoming is higher than the national average (5.5 per 100,000 vs. 4.6 per 100,000), and its top three causes include unintentional injury and homicide.

In Montana, suicide is arguably the most urgent mental health problem. Rates are nearly double the national average (19.4 per 100,000 vs. 11.0 per 100,000) and are even higher within Native American communities (21.5 per 100,000). Suicide clusters among Native youth have emerged as a significant problem; some Montana tribal

> communities witnessed multiple losses this past year. Risk factors associated with suicide in this population include individual level (substance abuse and mental health problems), familial and peer (stressors and family history), and societal (poverty, unemployment, discrimination, and lack of access to health care). Each of these risk factors includes areas amenable to intervention.

Access to Services

Health disparities and poor health outcomes are intertwined with poverty and barriers to accessing economic, educational, and healthcare services.

Widespread poverty within Native communities has contributed to some of the harshest living conditions facing any ethnic group in the US. As shown in the table, these striking disparities are found in unemployment, poverty, and percent of Native children qualifying for free or reduced lunch. Montana's Native Americans are overrepresented in the state's homeless population (2.23.6 times more likely to be homeless than would be indicated by Census data). The Indian Health Service (IHS) is the primary health provider for Native people in this country. The obligation of the Federal government to provide health care, education, and other services to tribes arises from the unique government-to-government relationship between the US and tribal governments, documented by treaties, statutes, and Federal case law. IHS is woefully underfunded, spending 60 percent less per patient than the average health care expenditure nationwide. Of all groups with health care funding from the government (including federal prisoners, Medicaid recipients, and veterans), Native Americans receive the fewest dollars per capita; the IHS is funded at only 56.8 percent of the level of services provided by the Federal Employees Health Plan and 50 percent of that provided to federal prisoners or Medicaid recipients.

Moving Forward

Despite the disparities and inequity of resources, Native communities possess unique cultural, political, and sociological strengths and protective factors. The scientific and medical communities have only recently recognized the significance and sophistication of traditional healing practices in improving health status.

The Montana-Wyoming Tribal Leaders Council is a tribally-driven organization working to promote the common welfare of the Native peoples of Montana and Wyoming. Member tribes define the Council's programmatic efforts and activities. As an example, the Substance Abuse and Mental Health Services Administration funds the Rocky Mountain Access to Recovery (RMATR), which provides Native Americans an array of choices for clinical treatment, support services, and addiction recovery. Participating tribal communities define their level of participation. Traditional healing options are among potential client services, but only when selected and defined by a tribal community. Initial indications show significant increases in employment and decreased drug and alcohol use. However, RMATR is a grant-funded initiative with limited sustainability.

Reaching Out

The contemporary health status of Native peoples and communities reflects the complexities inherent in the intersection of sovereign tribal nations and tribal individuals, and the larger sociopolitical and historical context. Native Americans have unique cultural strengths and histories of resiliency in the face of considerable trauma; however, they face exceptional challenges.

The Indian Health Care Improvement Act included within the Patient Protection and Affordable Care Act and American Reinvestment and Recovery Act may improve access to quality care and fund the infrastructure of the Indian Health Service. Although inadequate to comprehensively address all the health care needs of American Indian populations, a permanent authorization can provide more stability and help fulfill obligations to tribal communities.

One area of hope is reducing the high rates of suicide and associated risk behaviors among youth in Montana. Recent studies have underscored how tribal spirituality, increased familial connections, and social support can protect against suicide. A recently funded collaborative effort between the University of Montana and a youth suicide prevention program the Montana-Wyoming Tribal Leaders Council's Planting Seeds of Hope—seeks to foster resiliency via digital storytelling. Future public health promotion will require continued effort to validate and promote the importance of tribal identities, histories, healing methods, and protective factors.

Innovative and collaborative efforts by tribal communities, individuals, universities, and tribal colleges show promise of improving the health of Native Americans. Underlying these hopes are social justice priorities that create more equitable access to health care, educational, and economic opportunities for all Montanans. Effectively addressing those disparities will require sustained, adequately funded, and collaborative engagement between tribal, state, and federal entities. This improved access will improve the public health of Montana.

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The cross indicates a traffic fatality on the Blackfeet Reservation in northwest Montana. This practice continued until the 1980s. Photo by Maya R. Dittloff.

Social Capital in Libby, Montana: Barriers to Forming Support Networks

By Erin Bills

o an outside observer, the extraordinary federal response to asbestos-related diseases in Libby, Montana, looks like a health policy success story. The US Environmental Protection Agency (EPA) invoked its public health emergency powers for the first time. Based on this declaration, the 2009 Patient Protection Affordable Care Act specifically extended Medicare coverage to Libby residents afflicted with asbestos-related disease (ARD) and expanded funding for a nonprofit community clinic that combines patient outreach with research.

Yet, despite the federal support, Libby residents weary after decades of physical, mental, and financial hardship—have failed to develop the social support networks to make them a true community partner.

This case study looks at the development of social capital in Libby, an isolated, rural community in the northwestern corner of Montana, and suggests ways that public health practitioners can build bridges to other communities that have suffered an environmental health crisis.

In the past decade, many cases of ARD have been documented in Libby. Vermiculite ore mined there contains amphibole asbestos. For decades, the mining operation and processing facility dispersed asbestos fibers into the air, dusting the greater Libby area. The Agency for Toxic Substances and Disease Registry (ATSDR) has confirmed contamination of the town and surrounding environment. Social capital is the idea that social networks have value and, in health, protective factors. Libby, a community coping with an environmental and occupational health crisis, is an ideal population for a social capital study. The concept of social capital in health was used to identify reasons behind a social disconnect between the community and the political, legal, medical, and environmental policies that resulted from the EPA declaration. This study's goal was to collect preliminary data that could be used in designing future studies, community-level interventions, and cross-agency communication.

Social Capital and Health

Social networks can build a supportive infrastructure. In Libby, an investigation of social capital can help identify potential avenues to improve community-level understanding of the EPA Public Health Emergency Declaration.

The EPA derives its power to declare public health emergencies from a Superfund law relating to toxic exposure and disasters. The Libby Asbestos Site (LAS), a Superfund site, marked the first time in US history that this law has been activated. This declaration opens doors for health care services funding.

The federal health care reform law of 2009 contains a provision, based on this declaration, to extend Medicare coverage to Libby residents afflicted

> with asbestos-related disease. The law also expanded funding for the CARD (Center for Asbestos Related Diseases) clinic and

Deaths due to asbestos-related disease were 40 to 60 times higher in Libby than the expected national average.

Mortality studies by the ATSDR concluded that deaths due to ARD were 40 to 60 times higher in Libby than the expected national average. The true toll may not be known for decades because of the long latency period for asbestos-related diseases. This high death rate, plus rural factors such as access to care, a lack of primary care providers, and economic forces, spurred regulatory action. In June 2009, the EPA declared Libby a Public Health Emergency.

Social capital, a predominantly economic term, is a relatively new concept in public health.

medical staff. Libby's CARD Clinic is non-profit and focuses on patient outreach and continued research.

Survey Results

Few Libby residents were willing to participate in the study, and many participants declined to answer all survey questions. Of the 100 Libby residents approached, only 25 surveys were collected. Most respondents were not active in community organizations or groups—a typical measure of social capital—and thus did not receive emotional,

Author Erin A. Bills, MPH, is a graduate of the University of Montana School of Public and Community Health Sciences. economic, or practical assistance from these groups. Participants who relied upon family, neighbors, and friends failed to understand the implications of the EPA Public Health Emergency Declaration. They often denied that an emergency existed and blamed inaccurate media coverage for negatively affecting their lives. Many survey respondents said the declaration brought money to the community, but affected them negatively. Several of those who understood the implications of the Public Health Emergency Declaration said it placed an unfair burden on taxpayers.

One individual who displayed a high degree of social capital based on activity in community organizations, groups, and an extensive support network, accurately understood the implications of the EPA Public Health Emergency Declaration and said it could help to improve communitylevel awareness of the potential and existing health threats associated with asbestos exposure. However, this individual said the media misrepresented facts and helped create misconceptions of the EPA Public Health Emergency Declaration and the adverse health effects of asbestos exposure.

What We Learned

While this study does not represent the entire community of Libby, it provides insights into why residents are apprehensive about participating in research projects. Many doubt research will help the people of the community, saying that previous research projects completed in this region did not directly impact their lives. Some wanted no further publicity about Libby asbestos-related diseases. Some said media misrepresentation had torn the social fabric of this small, rural community.

Residents had difficulty finding common ground on politics, especially key issues such as health care reform and the role of the EPA. Consensus was strongly affected by economic and educational factors. Promises of economic growth often trump efforts to reverse environmental damage, making this population susceptible to political manipulation and further erosion of community trust in agencies.

People in rural and frontier areas often must travel extensive distances for medical appointments and may be less likely to seek preventive measures. This is important in Libby because asbestos-related pulmonary diseases may become acute.

Many physicians and public health professionals are urban-trained, which may affect trust in the health care setting. Like other rural communities in Montana, Libby has trouble recruiting and retaining primary care providers, let alone the specialists needed for diagnosis and treatment of asbestosrelated disease. This requires additional public health service provisions directed toward education of the primary care workforce.



Building Social Capital

The sensitive nature of asbestos-related disease in Libby requires empathy from researchers and practitioners. Community members who have experienced ARD as a patient, friend, or family member could be recruited to provide emotional support to others. This support may remove some social stigma associated with ARD diagnosis and promote community involvement with the CARD Clinic. Social workers, public health professionals, health care workers, and key members of the community can offer both informal and formal social support.

A sense of "we are all in this together" provides great support for those affected, directly or indirectly, by asbestos exposure in Libby. Open discussions between community members, public health professionals, and health care providers may provide a framework to bridge boundaries across social classes and professions. Social capital could be promoted through new and existing social networks, which can improve cross-agency communication.

This study demonstrates how the public health profession could improve social capital in Libby by becoming less institutionalized and more media and politically savvy. Social capital investigation can help identify avenues for improved communication. The communication gap is evident, since most Libby residents surveyed did not understand the EPA Public Health Emergency Declaration.

Trusted social networks can help clarify positive benefits of the Emergency Declaration, improve community perspective and understanding, and empower the community. Improving social capital can have a positive impact on community health by helping build trust between community members, public health professionals, and policymakers. Above, Montana Senator Max Baucus joins EPA Administrator Lisa Jackson, left, and Secretary of the Department of Health and Human Services Kathleen Sebelius, right, at a press conference on June 17, 2009, to announce a Public Health Emergency for Libby. Photo courtesy of the EPA.

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Are We Ready?

Emergency Collaborations in the Pacific Northwest

By Wayne Dauphinee, Wayne Turnberg

Since 2003, public health partners from Canada and the United States have worked together to formalize systems for infectious disease surveillance and response across the international geopolitical boundaries of the Pacific Northwest. The following example illustrates the need for this collaboration.

Cryptococcus gattii is a fungal pathogen that can cause the disease cryptococcosis in a susceptible human or animal host, a disease that usually presents as pneumonia or meningitis. In years past, the disease was typically seen in tropical or subtropical climates, but in 1999 human and animal cases began emerging on Vancouver Island, British Columbia. It was just a matter of time before human cases began to emerge south of the border as well, with Oregon's first human case seen in 2004 and Washington's in 2006. To learn more about this emerging disease, public health professionals on both sides of the border began working together, sharing epidemiologic information and laboratory diagnostics expertise to understand the epidemiology of this emerging infectious disease.

Pacific NorthWest Border Health Alliance

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As we have seen with *Cryptococcus gattii*, foodborne outbreaks, and the 2009 H1N1 influenza pandemic, infectious diseases and disasters transcend political boundaries; public health jurisdictions frequently work across geopolitical boundaries. Informal lines of cross-jurisdictional communication have always been available, as evidenced by communications between the British Columbia Centre for Disease Control (BC CDC) and the Washington State Department of Health (WA DOH) during the 2003 SARS outbreak. What was lacking was a formalized approach to collaboration, with needs identified before a major public health event takes place, and agreements and systems in place to address these needs rather than addressing them on the fly.

Building a Collaborative Process

Following the terrorist attacks of September 11, 2001, the US Congress directed funds administered by the US Centers for Disease Control and Prevention (CDC) to state and local governments for public health preparedness and response. From this, Washington State obtained its Early Warning Infectious Disease Surveillance (EWIDS) grant in 2003 to establish systems to quickly and efficiently track acts of bioterrorism and disease threats across state and binational borders in the Pacific Northwest, and to hold an annual binational cross border workshop. The British Columbia government also directed funding to this joint effort.

How has the funding been used? Since 2004 the Washington State Department of Health and the British Columbia Ministry of Health Services have jointly sponsored an annual cross border public health workshop on emerging public health issues. The workshops typically bring together more than 200 professionals from federal, state, provincial, territorial, tribal, and academic sectors in Canada and the US. Participants break into workgroups in epidemiology, public health laboratories, emergency management, emergency medical services, communications, and public health law. These groups meet throughout the year. The workshops have reinforced the need to formalize existing informal communication and collaboration through written agreements between public health partners; a commitment was made to continue that work.

Creating the Public Health Agreements

The US Constitution restricts the ability of states to enter into international agreements without Congressional approval. Fortunately, we in the Pacific Northwest received that approval in the 1990s through the Pacific Northwest Emergency Management Arrangement (PNEMA; US Public Law 105-381-November 12, 1998), a binational emergency mutual assistance agreement among Alaska, Idaho, Oregon, Washington, British Columbia, and the Yukon. This law, buttressed by the 2006 passage of the PNEMA Annex B implementing procedures, forms the foundation for our public health binational agreements.



Further information about the PNWBHA, including events, workshop reports and agreements, is available on the Alliance's website at www.pnwbha.org.

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The public health cross border agreements that have been adopted vary from general to specific. In 2006, a "first of its kind" memorandum of understanding (MOU) was signed between the WA DOH Secretary, Mary Selecky, and the British



Above and previous page, sampling for C. gattii in Washington State. Photos by Nicola Marsden-Haug and Katie Miller.

Authors

Wayne Dauphinee, BPE, MHA, is the Executive Director of the Pacific NorthWest Border Health Alliance, and Wayne Turnberg, PhD, MSPH, is the Acting Director of Communicable Disease Epidemiology for the Washington State Department of Health. Columbia Minister of Health, George Abbott, to formalize a collaborative approach for sharing resources during a public health emergency. This agreement served as a basis for WA DOH's preparedness assistance to British Columbia during the 2010 Olympic and Paralympic Games in Vancouver, British Columbia.

Other agreements

have been adopted to address specific needs. For example, in 2009 an MOU was signed between Washington and British Columbia to facilitate the sharing of health information to assure prompt and effective identification of disease agents across the international border. This MOU was helpful during a measles outbreak that involved case contacts in both countries. Also that year, the operational plan for moving emergency medical services (EMS) staff and resources across the Washington-British Columbia border was adopted, paving the way for EMS resource sharing during an event that overwhelms the EMS capacity of a border jurisdiction.

Public health laboratories have also benefited. In 2010, labs in Washington and British Columbia signed an MOU to facilitate mutual aid and cooperation during a public health emergency. This agreement is similar to one adopted in 2004 between public health laboratories in our Pacific Northwest states. In addition, the BC CDC's public health laboratory became the first Canadian provincial laboratory to be admitted to the US CDC's Laboratory Response Network, further strengthening our region's laboratory-response ability to respond to threats of bioterrorism or other public health emergencies.

Pacific NorthWest Border Health Alliance

Perhaps the most significant of all accomplishments has been the creation of the Pacific NorthWest Border Health Alliance (PNWBHA, or "the Alliance") in 2009. Recognizing the need to institutionalize the informal partnership arrangement that had sustained the cross border workshops, binational public health leaders at the 2008 cross border public health workshop in Bellingham endorsed the creation of the PNWBHA. The Alliance MOU was developed for sign-off by the respective Ministers or Secretaries of Health in response to this need, providing a framework for further collaborative work, including mutual assistance and interagency and interdisciplinary collaboration. The MOU has institutionalized a number of informal cross border working groups to ensure sustainability of the collaborations and provide a framework for further collaborative work, including mutual assistance and interagency and interdisciplinary collaboration.

This innovative agreement will allow the region to respond to surge capacity demands on health systems and health resources efficiently and in a cost effective manner when public health emergencies arise in any of the Alliance jurisdictions. The arrangement acknowledges the need to assess current and explore future areas of operational responsibility that could result in efficiencies when providing health services. The MOU provides a solid basis upon which to pursue new initiatives that 1) strengthen existing prevention, detection and response capabilities, such as improved coordination in responding to emergencies, enhanced laboratory diagnostic capacity and security, and updating stockpiles of necessary pharmaceuticals, and 2) ensure all participating jurisdictions have trained staff ready to respond to any crisis, and promote coordinated response plans to avoid duplication of efforts, fill in identified gaps, and maximize the leverage of limited resources.

Today, the Alliance includes Alaska, Idaho, Montana, Oregon, Washington, British Columbia, Saskatchewan, and the Yukon Territory. North Dakota and Manitoba have indicated a desire to participate. The PNWBHA's primary goal is to provide leadership in the integration of health sector preparedness and response initiatives at all levels of government, including Tribal and First Nations, throughout the Pacific Northwest. The Alliance is one of three regional border health collaboratives along the US/Canadian border; the other two being the Great Lakes and Eastern Border Health Initiatives.

To date, cross border collaboration has enabled public health officials to discuss and compare response plans, and build upon best practices developed in other jurisdictions to address issues as diverse as norovirus, Lyme disease, and measles. Lists of key contacts have been developed and cross border public health systems are better understood. A challenge that remains is conveying the message to our local public health partners. ■

See listing of MOUs on nwpublichealth.org

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Northwest Center for Public Health Practice

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NWCPHP provides training, research, and evaluation for state, local, and tribal public health in six Pacific Northwest states—Alaska, Idaho, Montana, Oregon, Washington, and Wyoming.

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