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Health Disparities in Washington State: Narrowing the Gap



Summary of the Proceedings of the Seventh Annual Symposium

Held as Part of the 2014 Annual Meeting of the

Washington State Academy of Sciences

September 18, 2014, Museum of Flight, Seattle, WA

December 2014

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About the Washington State Academy of Sciences

WSAS is an organization of Washington state's leading scientists and engineers dedicated to serving the state with scientific counsel. Formed as a working academy, not an honorary society, the academy is modeled on the National Research Council. Its mission is two-fold:

To provide expert scientific and engineering analysis to inform public policymaking in Washington state; and to increase the role and visibility of science in the state. Gov. Christine Gregoire authorized legislation establishing WSAS in 2005. Its 12-member Founding Board of Directors was recommended by the presidents of Washington State University and the University of Washington, and was duly appointed by the governor. In April 2007, WSAS was constituted by the Secretary of State as a private, independent 501(c)(3).

Symposium materials

Source material for the Seventh Annual Symposium may be found on the WSAS website, including:

- Speakers' slides;
- Video of the invited speakers' presentations;
- Symposium handouts;
- Symposium photographs.

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Welcome to the proceedings of our seventh annual symposium, ***Health Disparities in Washington State: Narrowing the Gap***. Health has more to do with policies than it does with medicine.

Our state now leads the nation in the number of enrollees in health care plans. The Affordable Care Act has added 350,000 Medicaid patients in Washington who were uninsured a year ago. Yet the research data on inequities is startling and often heart-wrenching. For every indicator—longevity, child mortality, diabetes, obesity, teen pregnancy, transportation fatalities, AIDS, violent injuries—the U.S. ranks near the bottom of 17 peer nations. For minorities, every single chronic and significant disease appears in higher frequencies. The speakers share data that send out an alarm, revealing there is much to be done to reduce disparities, achieve social justice, and improve health care for all.

Robert C. Bostes
Executive director

Nancy J. Smith
President

Call to Action

Charles Hirschman: Alert the public

“ ‘Alert the public’ is the number-one recommendation from the National Academy of Sciences. If you listen to the political rhetoric, you would not know that the United States is not measuring up to the other countries considered peers in the world. The most important thing from the National Research Council’s report is to just tell the American citizenry we have fallen behind.”

Maxine Hayes: Use data to target actions

“It’s our responsibility to get people to recognize that in terms of inequities, the United States is one of the worst countries in the world. Most of the public doesn’t know this. People are shocked by how poorly we’re doing compared to the rest of the world. They just can’t believe that’s true.”

Bob Crittenden: We’ve got to sell the public

“We are not going to be successful at making any moves unless the public supports them. Right now, if anything, there is less and less public support. They don’t trust government.”

Donald L. Patrick: Raise the level of the poorest

“I think our primary policy focus might best be directed to raising the income and wealth of the poorest sector of Washington’s population through such initiatives as increasing the minimum wage. Raising the level of our poorest citizens can complement other initiatives, such as that from Bill Gates, Sr., to redistribute wealth from the top of our most well-off citizens.”

Ralph Forquera: Scientists have the capacity to influence

“You have the capacity to influence—through information and knowledge and research and study—how we as a society think about these kinds of disparities. So if there’s any message today, it’s that you have the power to reverse this long-term negative conception that we’ve been living under, and we need to start that soon.”

Executive Summary

The Affordable Care Act brought health-care coverage to the forefront. As more people are insured, it becomes evident that insurance does not translate directly into achieving health. Washington state exemplifies the dichotomy between expanded coverage and the enormous gaps in health care for minorities. ZIP code—where a person lives—is a more accurate indicator of health than blood pressure readings or glucose test results.

U.S. health outcomes compared with the world

Dr. Charles Hirschman pointed out that the U.S. spends \$2.6 trillion on health annually—per capita, double that of any other nation. Yet compared with 17 peer countries, we rank near the bottom on almost every health indicator. Over the past 25 years, gains in life expectancy have been much slower in the U.S. than in virtually all other industrial countries. The widening gaps in life expectancy and health status are pervasive across the life span and all groups. One dramatic example is that women in the U.S. lose, on average, twice as much life before age 50 than women in most other industrial countries.

Equality does not equal equity

The opportunities to be healthy are not the same for everybody. Dr. Maxine Hayes explained that disparity defines differences between groups. Equity has an ethical principle grounded in justice and fairness. Social determinants such as education and urban planning are the structural roots of health inequities. America's legacy of discrimination has created a socioeconomic disadvantage. Solutions should be focused upstream—on poverty, housing, and education.

African American health disparities

For children and adults, African Americans have a significantly higher frequency rate for almost every major disease. Dr. Benjamin Danielson provided statistics from birth outcomes to levels of resilience. In King County (2008-2012), African Americans are more likely to have a low-birth-weight baby and more likely to never initiate breast feeding, important long-term health indicators. Highly educated African American women have a higher risk of infant mortality than whites or Hispanics with less than a high school education. Root causes of poor health are related to lack of opportunity and lives of stress.

American Indian health disparities

Washington is home to more than 30 tribes and reservations. Almost 75 percent of Native Americans live in urban Seattle and Spokane. Ralph Forquera described how, even in cities, American Indians do not have equal health status, with disparities in every category. The Indian Health Service, created in 1955, has often been circumvented or ignored. Social factors such as poverty, inadequate education, and homelessness influence people's ability to get a reasonable level of health.

Latino/Hispanic health disparities

Dr. Federico Cruz-Urbe noted that an inordinate percentage of resources go into treating illnesses, rather than prevention. Sea Mar Community Health Center last year served 240,000 people across 10 Washington counties. Forty percent of patients are Latino; 95 percent are impoverished. The Affordable Care Act brought 35,000 new people into Sea Mar's system. The payment source enables the center to structure a physical, mental, and behavioral-health system focusing on better patient outcomes.

Asian/Pacific Islanders health disparities

Hepatitis B (HBV) is an example of health-care disparities in Asian and Pacific Islanders that Dr. Anthony Chen used to portray a successful health campaign. APIs compose less than 5 percent of the U.S. population, but more than 50 percent of people with chronic Hepatitis B. While vaccinations were recommended since 1988, a multi-media CDC campaign, along with many partners, significantly increased resources for educating APIs. All states now have vaccination coverage rates of over 80 percent. Between 1990 and 2001, the incidence of HBV in APIs was reduced from 14 per 100,000 to 0.5. per 100,000. Racial/ethnic disparities have almost vanished.

Policy initiatives as a strategy for narrowing the gap

Since the Affordable Care Act was passed, the state's uninsured rate has decreased from 16 percent to 10 percent. Dr. Bob Crittenden presented Washington state's new Healthiest Next Generation program, aimed at helping kids to be healthier. Two new state bills will improve care for the mentally ill. An added 350,000 Medicaid patients mean much work to do, especially regarding Hispanics and immigrant patients added to Medicaid. Challenges include the development of a diverse, community-based work force and changes to the delivery of health care.

Research that leads to actions

American Indians and Alaskan Indians suffer some of the worst health inequities of all minorities. The Partnerships for Native Health conducts research that focuses on improving health through research, interventions, education, and technical assistance. Dr. Dedra S. Buchwald shared research strategies for working in minority communities, including engaging the community, adapting to the culture and following data with action. The Native Investigator Development Program trains American Indian and Alaska Native M.D.'s, Ph.D.'s and J.D.'s to write grants and lead rigorous scientific research projects in their communities.

Poverty and health in Washington state

The Gini index depicts probability of wealth distribution. Dr. Donald L. Patrick explained that as the Gini index goes up and down, there is an association between fair and poor health. In the U.S., income inequality has steadily risen over the past 40 years. Statistics for Washington show that between 1910 and 2010, the

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Gini index rose and infant mortality dropped. Racial disparities remain—African Americans and American Indians consistently have higher infant mortality than for all races combined. Seven Washington counties showed household incomes of 20 to 30 percent below the Federal Poverty Level. Interventions at the policy and individual level may be best directed at reducing poverty and increasing education for all.



U.S. Health in International Perspective

Charles Hirschman

Professor, Department of Sociology
University of Washington

Synopsis

The presentation summarized the results of three National Research Council reports, sponsored by the National Institutes of Health and the National Institute on Aging, on the health and mortality of Americans compared with residents of other industrial societies. The startling findings are captured by the title of the most recent report, *U.S. Health in International Perspective: Shorter Lives, Poorer Health*.

As of 2010, the U.S. spends \$2.6 trillion on health annually—per capita, double that of any other nation. However, in comparison with the 34 member countries in the Organisation for Economic Co-operation and Development, and particularly the 17 peer comparison countries, the U.S. is not doing so well.

17 Peer Comparison Countries

Australia • Austria • Canada • Denmark • Finland • France • Germany • Italy • Japan • Norway • Portugal • Spain • Sweden • Switzerland • The Netherlands • United Kingdom • United States

The major findings of these studies were:

Longevity. For both sexes, life expectancy has fallen to the bottom ranks of the industrial nations. In OECD's health data for 2010, only Mexico and some former countries of the former Soviet Union are lower.

Survival to age 50. For every cause of death examined, young Americans lost more years of life before age 50 than did young people in peer countries. The statistics are most startling for women—U. S. women on average lose twice as much life before age 50 as women in other industrial countries.

Infant mortality. The U.S. is basically at the bottom here, too. This finding is not explained by higher levels of poverty and greater racial and ethnic diversity in the U.S. American mothers with 16 or more years of schooling have higher infant mortality than the rate of most other high-income countries.

“The U.S. has shorter life expectancy and poorer health than comparable advanced countries. We’re basically at the bottom.”

Charles Hirschman

Low birth weight. The U.S. prevalence of low birth weight is second-highest among the 17 peer countries. A 2012 analysis of 184 countries found the U.S. pre-term birth rate was comparable to that of sub-Saharan Africa.

Child mortality before age 5. In 2006, the U.S. had the highest rate of child deaths due to negligence, maltreatment, or physical assault among the 17 peer countries.

Mortality from non-communicable diseases. Of the 17 peer countries, the U.S. had the second-highest mortality rate.

Mortality from communicable diseases. The U.S. had the highest rate of AIDS and fourth-highest infectious disease mortality rate.

Mortality from injuries. The U.S. had the second-highest injury mortality, among adults and also adolescents aged 15-19.

Mortality from transport accidents. The U.S. had the highest rate. For ages 15-24, transport injury mortality has been higher than in 17 peer countries since the 1950s.

Mortality from violent injuries. A 2003 study found that the rate of firearm homicides in the U.S. was 20 times higher than in 22 OECD countries. Males age 15-19 are five times more likely to die from violence.

Obesity. The U.S. has the highest obesity levels among all OECD countries. As of 2005, U.S. teens have twice the level of the OECD mean.

Diabetes. As of 2010, the U.S. had the second-highest prevalence of diabetes of people ages 35-44 in the 17 peer countries.

Teen pregnancy: In 2010, the U.S. teen pregnancy rate was not only the highest among peer countries, it was nearly 3.5 times the average.

Teen sexually transmitted diseases. The U.S. leads the world in HIV infection for ages 15-24, and leads in other STDs.

Good news. The U.S. is below average for cancer and stroke mortality, control of blood pressure and cholesterol levels, and elderly survival (above age 75), and our suicide rates are about average.

Explaining U.S. health disadvantages

It's very difficult to isolate individual risk factors from societal conditions.

Individual behaviors: Possession of firearms, not fastening seat belts or wearing motorcycle helmets, drinking while driving, smoking, and lack of regular exercise are important risk factors.

“The low performance of health and mortality in the United States is by and large invisible to many Americans. When asked to rate their health, Americans are more likely to report their health as excellent or very good than citizens of other industrial countries.”

Charles Hirschman

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Societal and environmental factors: The U.S. has the highest rate of child poverty and the highest level of income inequality among peer countries. U.S. preschool enrollment is lower than most high-income countries, and by age 15 U.S. students have average or below-average scores in math, science, and reading.

Public policies: The U.S. spends much less in social welfare expenditures such as employment protection, unemployment insurance, and child-care benefits than other industrialized nations.

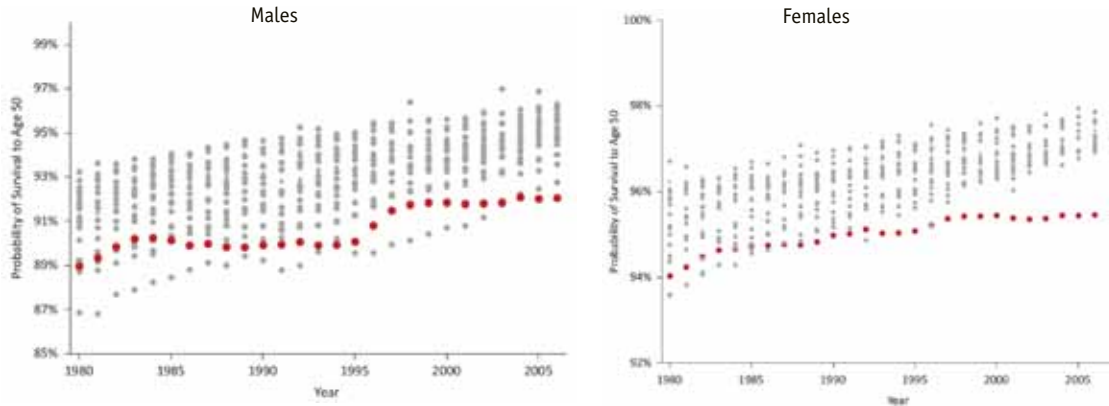
Among the recommendations in the *Shorter Lives, Poorer Health* report were:

Alert the public. A comprehensive media and outreach campaign is needed to inform the general public about the U.S. health disadvantage and to stimulate a national discussion.

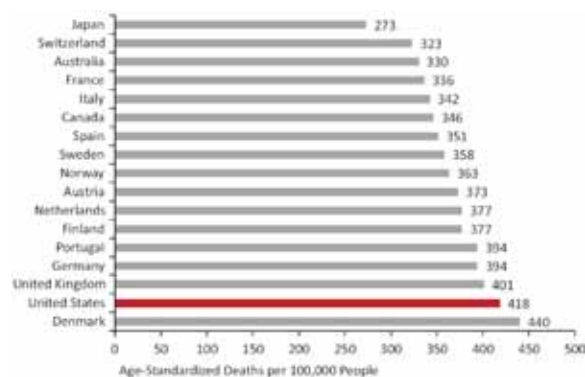
Learn from other countries. The United States has much to learn from other nations' policies, including social, economic, educational, urban/rural development, transportation, and health-care financing and delivery.

Figure 1. Major Findings of Poorer Health and Higher Mortality in the United States

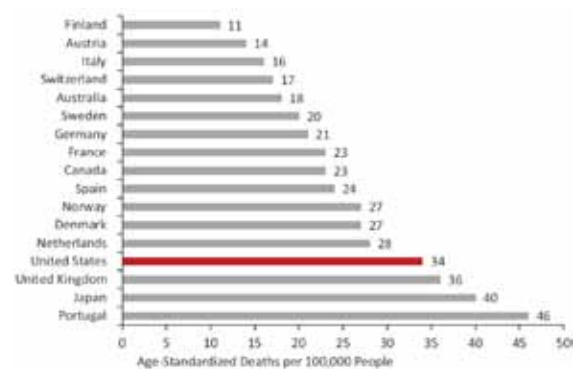
Longevity: Probability of survival to age 50 in high-income countries



Mortality: Non-communicable diseases (2008)

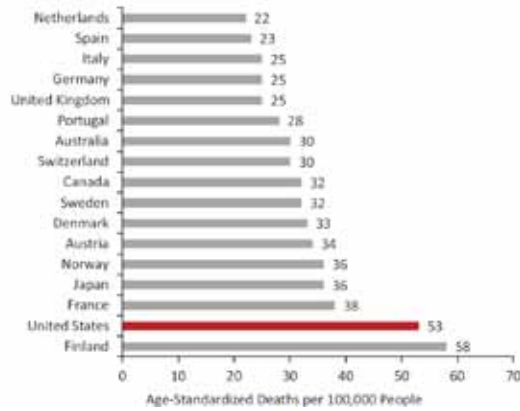


Mortality: Communicable diseases (2008)

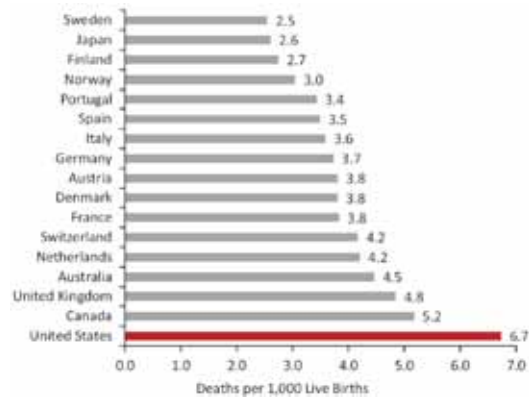


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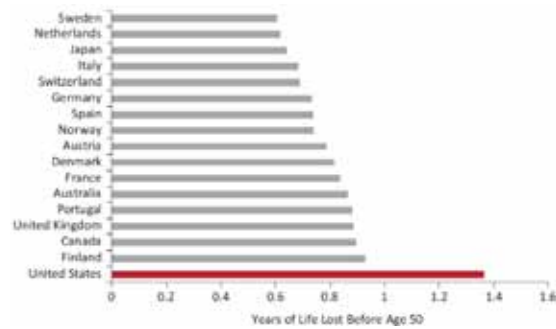
Mortality: Injuries



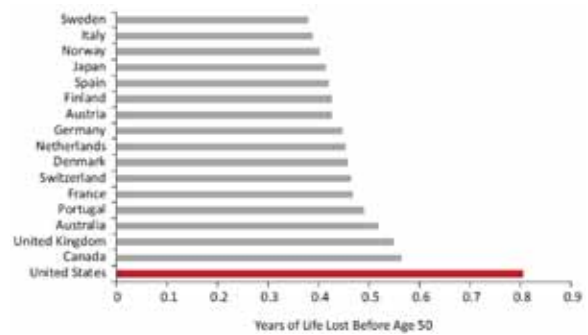
Mortality: Infant



Years of life lost before age 50: Males



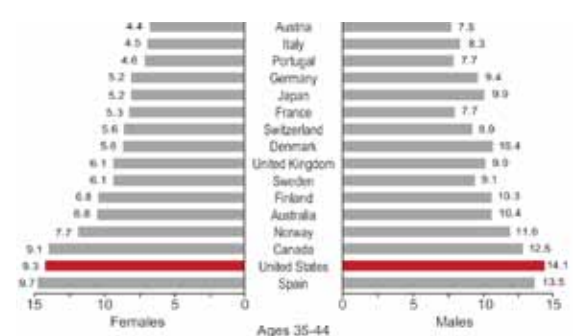
Years of life lost before age 50: Females



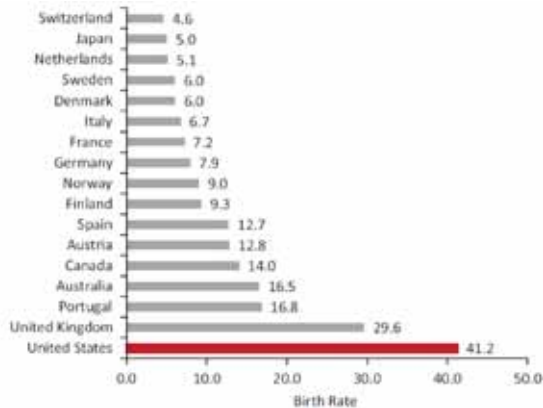
Obesity



Diabetes (2008)



Adolescent sexual health



Other birth outcomes: Low weight



Source: U.S. Health in International Perspective: Shorter Lives, Poorer Health

National Research Council reports:

U.S. Health in International Perspective: Shorter Lives, Poorer Health
Explaining Divergent Levels of Longevity in High-Income Countries
International Differences in Mortality at Older Ages

Slides and a video for this talk are available at www.washacad.org.



Righting the Wrong of Social Injustice in Health:

Why health equity matters

Maxine Hayes

Past State Health Officer

Washington State Department of Health

Synopsis

Within health care, there is a tremendous amount of disparity—racial, ethnic, geographic, and gender differences. The opportunities to be healthy are not the same for everybody. Dr. David Satcher, former U.S. Surgeon General, said we should not be talking about reducing disparities in health; we need to eliminate them.

What is health equity?

Disparity defines only the differences between groups. Equity has an ethical principle that is grounded in justice and fairness, and looks at the unequal distribution of opportunities. What kind of lenses we put on the issues of health inequities determines what we want to do about it. Washington state now leads the nation in the number of individuals enrolled in health-care plans. Having insurance is necessary, but it is insufficient for achieving health.

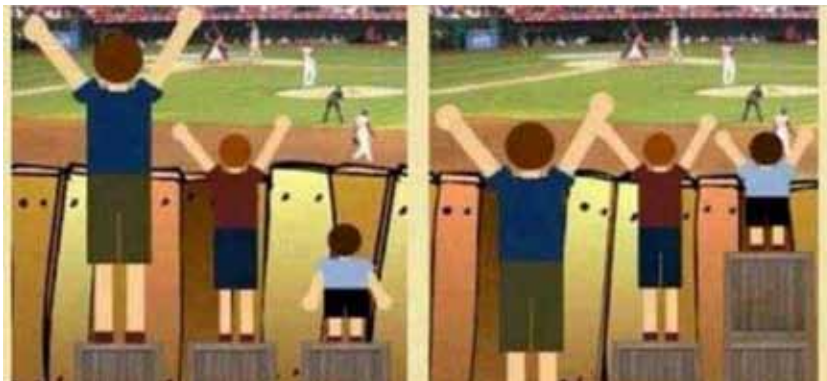
“We have plenty of evidence that what contributes to health has very little to do with medicine and more to do with social economic policies.”

Maxine Hayes

What causes health inequities?

According to the World Health Organization, social determinants are the structural roots of health inequities. Education, taxation, labor and housing markets, urban planning, government regulations, and health-care systems are very powerful determinants of health. These are things over which an individual does not have a lot of control. Society needs to provide conditions that make for a more equitable distribution of opportunities for people to be healthy.

Figure 2. Equality versus Equity: Targeted universalism



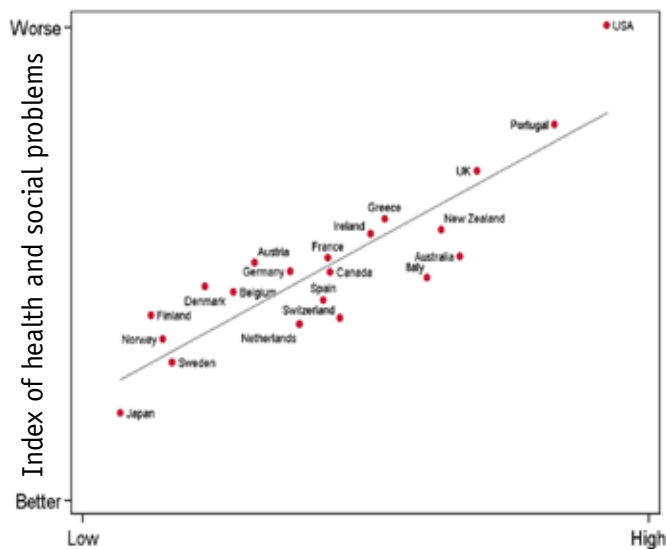
If everything is equal, the boys get one stool each. The first has a very good view of the game, the next can barely see and the third can't see anything. In the second picture, the boy on the right gets two stools, and now they all can see. That's the difference between what's fair and what's equal—making sure people get what they need to have a fair chance. Targeted universalism leads to solutions that are better outcomes for all.

We can't just say, "You have high blood pressure" and do nothing about trying to relieve the stress, some of which has been created by society. As a medical student in the Mississippi Delta in the 1970s, I worked with Dr. Jack Geiger, who founded the country's first community health center. I remember he said, "The last time I looked, the prescription for hunger was food." And that's what we gave people. Together, as a society, we really have to give people what they need.

Why do inequities matter?

Disparities are rooted in institutional racism, income gaps, entrenched poverty, and social injustice. Health and social problems are always worse in countries where there are more inequities, and the United States is one of the worst.

Figure 3. Income Inequality



Source: www.equalitytrust.org.uk

Health inequalities can be seen as an outcome of social inequalities. Dr. Martin Luther King, Jr. said, “Of all the forms of inequality, injustice in health is one of the most shocking and the most inhumane.” Had Dr. King lived, I believe his next big fight would have been one of health.

Race is still a significant predictor of how one fares

America’s legacy of discrimination has created a socioeconomic disadvantage. African Americans on average live in unhealthier neighborhoods, are worse off in childhood, have less wealth, and experience more hardships with fewer resources to cope. Historically, there are large disparities in income by race/ethnic groups. Higher income directly shapes health, stress, housing, nutrition, physical activity, and more. A parent’s income shapes the next generation’s. We have mapped and come to recognize that a person’s ZIP code—not blood sugar or blood pressure readings—is the best predictor of how well a person is going to do. Place matters.

Solutions begin at the source

We need to focus our solutions upstream—poverty, housing, education and inequality. It starts with how we treat women, especially African American and Native American women, whose health has been politicized for a long time. People think that health is related to a doctor’s visit, but health is more than health care. It’s tied to the distribution of resources. Social policy is health policy, and we all pay the price for poor health.

The message is the same as it was 40 years ago when I worked with Dr. Geiger. We have to address the social, political, and economic policies and undo fundamental institutional biases. I haven’t given up. I have a grandchild born this year, and I hope she will one day be able to say she had a fair chance at health, and that should be true for all our children.

“The bottom line is that not everybody has an equal opportunity to be healthy. That’s been true in Washington, and we should not be proud of that.”

Maxine Hayes

Slides and a video for this talk are available at www.washacad.org.



Panel: Health Disparities and Community Strategies

A panel addressing disparities in diverse populations

Moderator: Beti Thompson

Professor, Health Services

Fred Hutchinson Cancer Research Center

Synopsis

Thirty years ago, Margaret Heckler, then U.S. Secretary of Health and Human Services, noted that there was “a continuing disparity in the burden of death and illness by blacks and other minority Americans as compared with our nation’s population as a whole ... an affront to our ideals and to the ongoing genius of American medicine.”

The sad fact is that decades later, although there have been efforts to reduce some of the disparities, the inequities are still increasing. Today most of the work being done on disparities focuses on individual risk factors or biologic responses and pathways, which are downstream factors. What should the mission of academia include? We should be here thinking about the upstream factors.

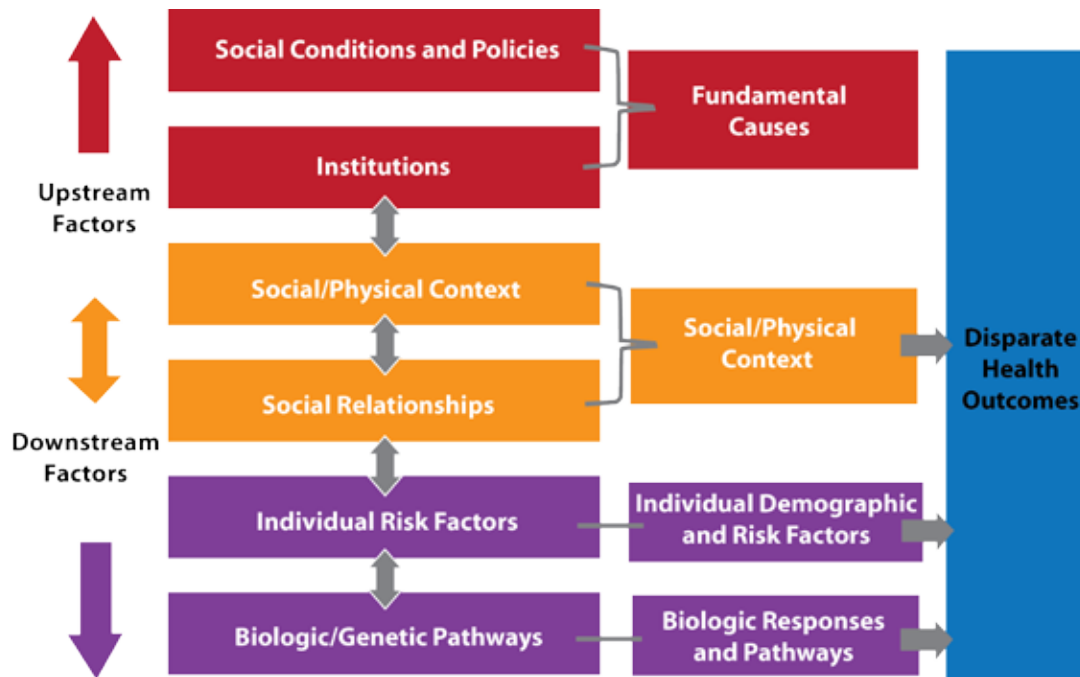
Our panel speakers are at the forefront of working with diverse populations that face disparities in the Seattle area and throughout the state of Washington—African Americans, American Indians, Latinos and Hispanics, and Asians and Pacific Islanders. Collectively, they offer opinions and insights to improving health, reducing disparities, working with underserved populations, and seeking social justice.

“We need to start looking at the social conditions and policies that influence health disparities.

We need to get upstream.”

Beti Thompson

Figure 4. Model for Analysis of Population Health and Health Disparities



Source: Warnecke et al., American Journal of Public Health, 2008

Slides and a video for this talk are available at www.washacad.org.



Panel: Health Disparities and Community Strategies

Health Disparities: African Americans

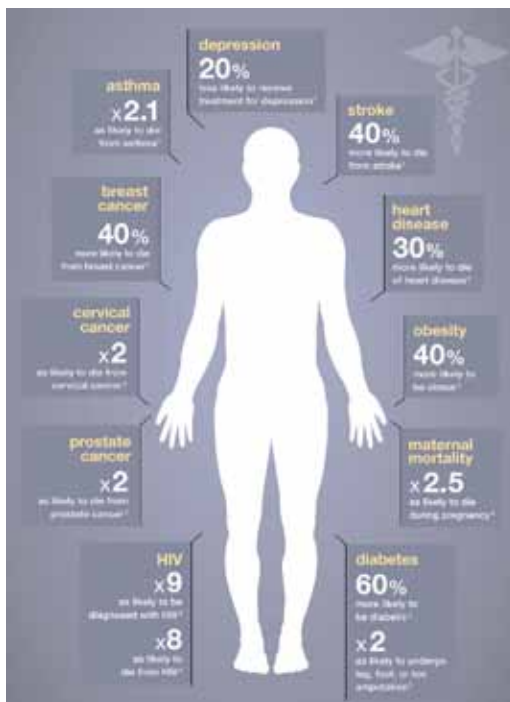
Benjamin Danielson

Medical Director,
Odessa Brown Children's Clinic

Synopsis

In Washington state and the U.S., for African American adults, every single chronic and significant disease appears in frequencies that are significantly higher compared with the general population. Children face the same health inequities—for just about every major disease, there's a significantly higher rate, sometimes up to two to three times higher.

Figure 5. African American health disparities: Adults



Birth outcomes

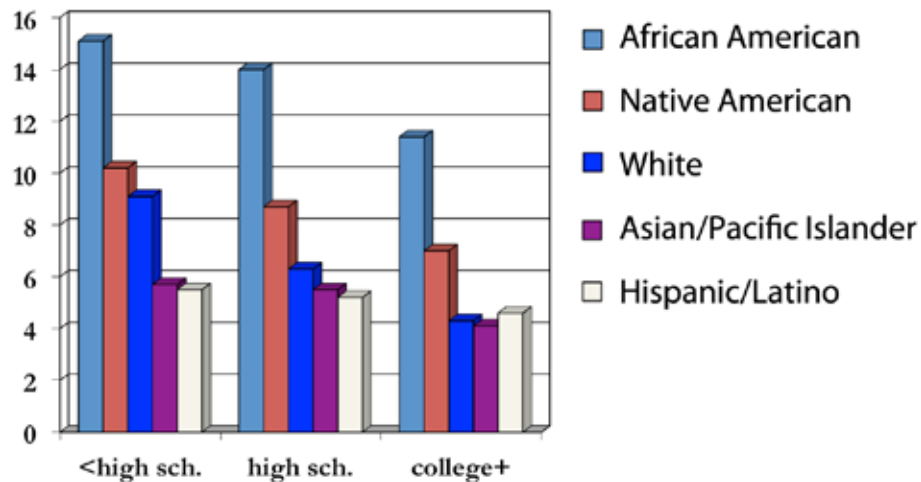
In King County (2008-2012), trends show African Americans are more likely to have a low-birth-weight baby and more likely to never initiate breast feeding, which is one of the most important long-term indicators of overall health. Pre-natal care is significantly later in African American and African immigrant populations. These are issues that have a root relationship to health inequities.

Infant mortality

The infant mortality rate in this country is very interesting when you look at statistics showing the mother's

ethnicity and level of education, which is a good proxy for her opportunity for health in her socioeconomic status. Highly educated African American women have a higher risk of infant mortality than a Hispanic or white woman with less than a high-school education. African Americans have approximately twice the rate of SIDS (Sudden Infant Death Syndrome) than the white population.

Figure 6. Infant Mortality, Race and Socioeconomics



Source: National Center for Health Statistics, 2002

Lives of stress

Root causes of poor health are related to lack of opportunity and lives of stress. Many African American children have hypertension. It’s harder to get an education. The lifetime chance of an African American male to end up in jail is 32 percent. In King County, the median income for an African American household in 2007 was 51 percent of that of Caucasians. Home ownership rates for African Americans in Washington state is significantly lower than for whites.

“African immigrants are more likely to be given a C-section despite having a low-risk pregnancy. There really isn’t a medical reason. Think about that.”

Benjamin Danielson

King County studied measures of resilience (2012-2013). African Americans responded to “No one to help” in significantly higher numbers compared with whites. In a 2011 King County study, 41 percent of blacks had experienced discrimination in the previous year.

These factors have not gotten better over time. They create a constant trickle of stress, a constant series of pressures and crises that affect every single body part and body function: stress on the nervous system, suppression of immune function, blood-sugar imbalances, skin problems, other problems with muscle tissue, reproductive system, and every single organ.

Improvements through the Affordable Care Act

Washington state has significantly increased the number of citizens with health insurance. Across the U.S., by 2016 an estimated 509,000 African Americans age 19-25 will have health insurance, and an estimated 3.8 million African Americans who would otherwise be uninsured will have gained coverage to health care because of the Affordable Care Act.

Health Disparities in Washington State: Narrowing the Gap

Racial inequality exists in many instances in today's society. I hope that we will start to talk more about how to reverse these trends by looking at our investment in society rather than our investment in biomedical model treatments.

“For Michelle Obama, an African American woman with a college-plus education, the infant mortality rate in the U.S. for her child is greater than anyone of any other racial ethnicity who did not finish high school.”

Benjamin Danielson

Slides and a video for this talk are available at www.washacad.org.



Panel: Health Disparities and Community Strategies Health Disparities: American Indians

Ralph Forquera

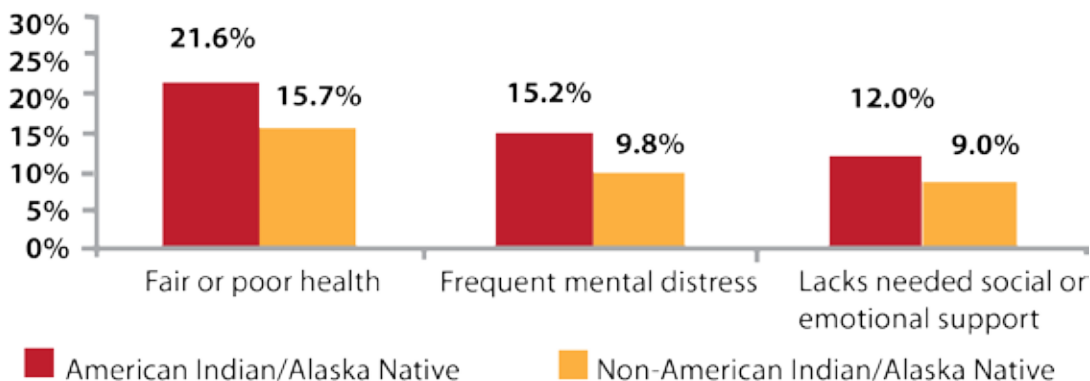
Executive Director, Seattle Indian Health Board

Synopsis

The urban Indian population is one that is often overlooked. Raising awareness to the plight of urban American Indians and their health is a daunting task, particularly here in Washington state, where there are more than 30 tribes and reservations. Almost 75% live in the metropolitan areas of Seattle and Spokane.

In spite of the ability of a person in the city to have potentially greater access to health-care services, Indian people in most of these cities do not have equal health status. Pick any category of health, and there are disparities.

Figure 7. Health Indicators: United States, urban areas, by race, 2006-2010



Social factors, not medicine, influence people's lives and their capacity to get a reasonable level of health. Urban Indians are over-represented statistically in many disease categories and in the social factors that tend to inhibit good health, such as poverty, inadequate education, unemployment, homelessness, substance abuse, violence, incarceration, and the many conditions that manifest from being disenfranchised from society.

If anybody should be healthy in the United States, it should be Native Americans. The Indian Health Service is an agency of the government that was created in 1955 with the exclusive purpose of improving the health of American Indians. Yet the health status of that population is inferior. We have been subject to countless opportunities for progress, only to see it circumvented by the poor implementation or actual ignoring of policies.

“Social problems have to be solved by government. There’s no other vehicle to make the important sociological, economic, and historical changes that are necessary.”

Ralph Forquera

Solving the problem of health disparities among urban Indians is a multi-generational undertaking. Through perseverance and a firm belief in the ideals that many indigenous societies continue to practice, there is room for hope that the extent of health disparities witnessed today will improve over time—but only if we fully embrace the challenges that contribute to these disparities.

Video for this talk is available at www.washacad.org.



Panel: Health Disparities and Community Strategies
Health Disparities: Latino/Hispanic Health

Federico Cruz-Urbe

Vice President of Clinical Affairs
Sea Mar Community Health Centers

Synopsis

In every community where I've served in the health-care system, I've watched an inordinate percentage of resources going into treating illnesses. My focus was on prevention, and the funding level was miniscule. That pattern is still intact. However, there is some cause for hope with the Affordable Care Act and some of the significant changes in how health care is being paid for.

Figure 8. Sea Mar Community Health Centers, Administration Office



Funded by the federal government, Sea Mar last year served 240,000 people in 60 sites across 10 counties in Washington state.

Sea Mar Community Health Centers serves a huge number of people. Forty percent are Latino, and 95% of them are really poor. We provide a comprehensive list of services including medical, dental, mental health, behavioral health, preventive health services, day care, and assisted living.

In our clinics, we confront health disparities on a daily basis.

“We abducted your daughters”

Here are two examples: A 54-year-old diabetic woman from El Salvador, who previously had been well-controlled, came in with blood sugar close to 500. Extra time was taken to coax the story out of her. Criminal gangs in El Salvador, who extort money from people who have family members in the U.S., had phoned her to say “We abducted your daughters, and unless you give us half your salary every check, we’ll put them in a brothel.” Without building a support system to help with the situation, it’s ridiculous to think we could control her diabetes and hypertension. In another case, a woman with a life-threatening infection was sent to the emergency room but was being released because no one there spoke Spanish. These kinds of things happen all the time.

“Many of our patients live at the edge of crisis, the edge of disaster. Their personal safety nets are very thin.”

Federico Cruz-Uribe

The Affordable Care Act has made a huge difference

The ACA brought 35,000 people into our system in six months, and they all came with a payment source. That enables us to add resources to help meet their needs. The Act’s focus on outcomes, instead of just treating illnesses, creates a context for care management, where we can structure our system to keep people healthy. We can address the 80 to 90 percent of care that traditionally has not been dealt with in clinical settings.

Our clinics are putting together teams that include nurses, social workers, health workers, dietitians, mental-health providers, and cross-trained behavioral health integration specialists. Across our system, we’re developing an in-depth structure to address patients’ needs outside of the classic clinical setting. We aim to keep people out of the hospitals and out of the emergency rooms. This is all an experiment. Will these practices work? I don’t know. We’ll try them and if they don’t work, we’ll try something else.

Video for this talk is available at www.washacad.org.

“I never thought I would live to see the day that we would start in some meaningful way to restructure our health-care system, but I actually believe that we are.”

Federico Cruz-Uribe



Panel: Health Disparities and Community Strategies

Health Disparities: Asian/Pacific Islanders

Anthony Chen

Director of Health, Tacoma-Pierce
County Health Department

Synopsis

Are we going to see the end of disparities in my lifetime? To answer, I'm going to focus on Hepatitis B, which is an example of health and health-care disparities in Asian and Pacific Islanders. APIs compose less than 5 percent of the total population in the U.S., but account for more than 50 percent of those living with chronic Hepatitis B. In Washington state, foreign-born APIs have 80 times the Hepatitis B prevalence of whites.

The number of Asians in the U.S. increased 43 percent between 2000 and 2010, from 10 million to almost 15 million. Washington state ranks number six in the U.S. for Asian population, and fifth for Native Hawaiian/Pacific Islander population, for a combined total of more than 670,000 people representing nearly 50 different ethnicities. One of three Asians in the U.S. has limited English proficiency. Asians have a higher rate of uninsured than whites, with Koreans at the top with 31 percent uninsured.

Hepatitis B vaccination history

Vaccination is a cornerstone of Hepatitis B and liver cancer prevention, but policy recommendations have evolved. In 1988, Hepatitis B vaccination was recommended only for infants in racial/ethnic groups with high Hepatitis B Virus infection. In 1991, it was expanded to include universal vaccination of infants and selected categories of high-risk older groups. By 1997, it was recommended for all children 0-18 years old. More recent guidelines have added screening and vaccination of high-risk adults.

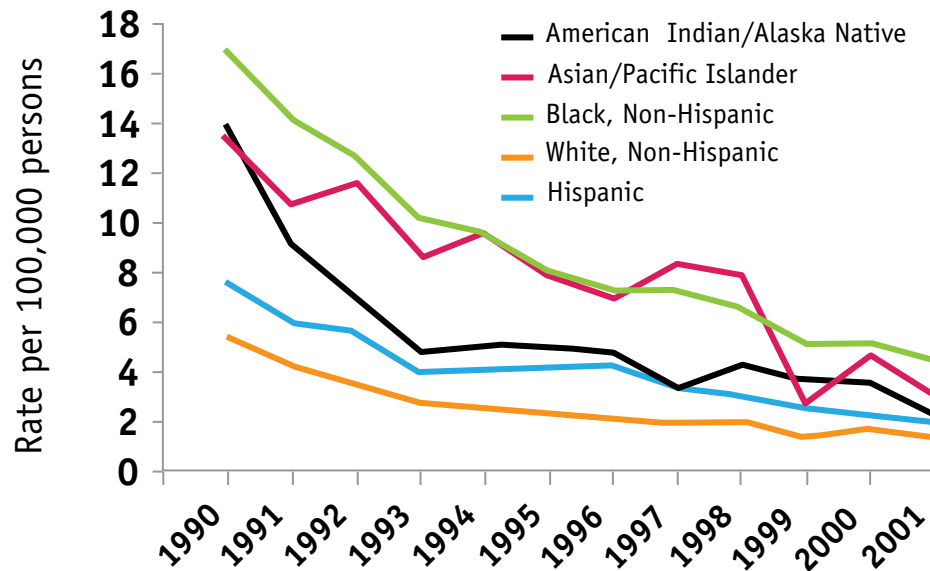
Now with the Affordable Care Act, more Asian and Pacific Islanders can benefit from health insurance—through Medicaid expansion, children covered on their parents' insurance, and qualified health plans. If a patient does have chronic Hepatitis B or liver cancer, there is no longer a lifetime cap or denial of coverage for pre-existing conditions.

Figure 9. Centers for Disease Control and Prevention: Viral hepatitis populations

The screenshot shows the CDC website's 'Viral Hepatitis Populations' page. The main heading is 'Asian & Pacific Islanders'. Below the heading, there is a section titled 'Chronic Hepatitis B Facts' with several bullet points:

- Global public health problem:** There are an estimated 240 million people living around the world with chronic Hepatitis B, with an estimated 1.2 million living in the United States.
- Can lead to liver cancer:** Approximately 15% to 25% of people with chronic Hepatitis B develop serious liver damage, including liver cancer.
- Transmission:** Hepatitis B is usually spread when someone comes in contact with blood from a person who has the disease. Hepatitis B can be passed from an infected mother to her baby at birth, or from a family member to young children.
- Vaccination:** The Hepatitis B vaccine prevents people who have never had the disease from getting it. It is given to all newborns. As a result, new Hepatitis B infections among children and adolescents have decreased by 95% since 1990.
- Currently living with Hepatitis B:** Millions of people currently living with chronic Hepatitis B were infected as infants or during early childhood. These infections occurred before the vaccine was available and widely used.
- Silent disease:** Chronic Hepatitis B is often "silent" and many people can go decades without symptoms.
- Most don't know it:** Up to two-thirds of Americans living with chronic Hepatitis B do not know they are infected.

Figure 10. Incidence of Acute HBV by Race/Ethnicity, 1990-2001



Source (Figure 9 and 10.): www.cdc.gov/hepatitis

Strides in increasing knowledge

The CDC has developed Hepatitis B websites specifically for health professionals, including a version for Asian and Pacific Islanders. Online there are downloadable tools for screening, patient education, and research.

Health Disparities in Washington State: Narrowing the Gap

There has also been a significant increase in resources for educating APIs about Hepatitis B. The wide range of media includes videos, a “Know/Now Hepatitis” CDC campaign, the Asian Health Foundation informational website, educational materials produced by medical centers, health e-cards, and online community mobilization through agency hepatitis projects, social media, and organized coalitions.

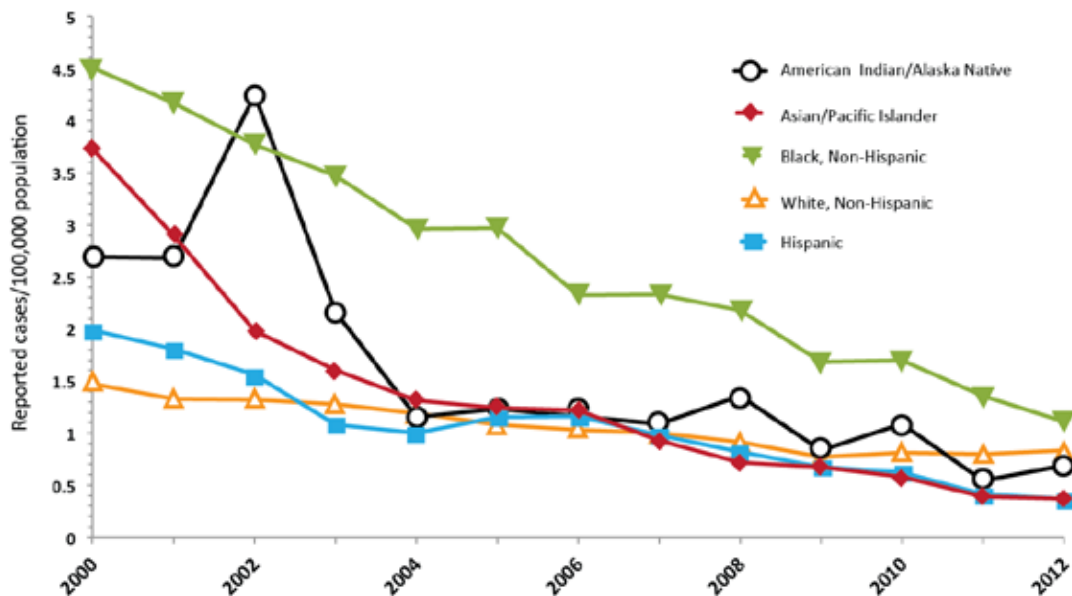
“Multiple community strategies can significantly reduce health-care disparities.”

Anthony Chen

A dramatic success story

National immunization coverage in 2013 for children ages 19-35 months improved to 94 percent for Native Hawaiians and other Pacific Islanders, and 92 percent for Asians. All states now have vaccination coverage rates of over 80 percent. Between 1990 and 2001, the incidence of acute HBV in Asian and Pacific Islanders was reduced from 14 per 100,000 persons to 4 per 100,000. Between 2000 and 2012, the incidence was reduced further, to 0.5 per 100,000. Not only have the vaccination and incidence rates improved, but the racial/ethnic disparities have almost vanished.

Figure 11. Incidence of Acute HBV by Race/Ethnicity, 2000-2012



Source: www.cdc.gov/hepatitis/Statistics/2012Surveillance/Slide3.4.htm

While health-care disparities exist for different ethnicities, inequities can be reduced through a focus on communities. The Robert Wood Johnson Foundation recommends utilizing multi-sector and multi-strategy approaches, tailoring interventions to the specific communities and building on their assets, and understanding and addressing the role of race and ethnicity in building healthy communities. As the Hepatitis B example illustrates, developing and following

policy recommendations and guidelines—and communicating them to health-care providers and the population—can lead to significant reduction of health-care disparities.

Slides and a video for this talk are available at www.washacad.org.

Panel: Health Disparities and Community Strategies Q & A Highlights

Question: Has there been any effort to share the information about the abundance of unwarranted C-section deliveries to the health-care authorities?

“We are trying to work in partnership with mothers, with the East African population and the American Indian population to have a conversation about it. The health-care system has treated pregnancy like an illness for way too long. It’s made people that don’t have much trust in the health-care system critical and less willing to get involved in the preventive side.”

Benjamin Danielson

Question: How did we get in this terrible situation of inadequate support for King County’s community health centers?

“In the old days, throughout the U.S., there was a prevalent system called ‘poor farms.’ You had a county clinic and a county hospital where everyone took turns taking care of patients who were poor. When President Johnson passed the Medicare/Medicaid laws in the 1960s, everything changed because poor people had insurance, and local governments no longer supported the clinics, etc. The horrible irony is that Medicaid didn’t serve all the poor, and a large percentage of providers didn’t take Medicaid.”

Federico Cruz-Urbe

“There are amazing community health centers throughout King and Pierce counties. But some of the most effective interventions that really promote lifelong health are the first things that get cut. Anyone who lives in King County has to take part of the blame because we didn’t vote in a way that supports funding for that kind of work. The U.S. is the only developed country that spends less on public services than it does on health care, and that ratio bears out in poor health-care outcomes.”

Benjamin Danielson

Question: The data show that there is much less breast-feeding with African American women. Is that from lack of knowledge that it’s good for children?

“There are historical, cultural and also environmental issues. African American women are working and often the only source of income for the family. If employers don’t provide encouragement and support for that, it’s a barrier. We also have to look at policies, starting at the hospitals, since the majority of babies are born there.”

Maxine Hayes

“Many immigrants come to this country and want to be like Americans, and so they bottle-feed. Also, in our capitalistic society, companies are heavily marketing formula to the point where hospitals used to give out formula samples to all mothers. They didn’t get breast pumps, they got formula. So there are a lot of social issues we need to examine.”

Anthony Chen

Question: What about the rural-urban divide in Washington state?

“An issue that people are really struggling with is how to make sure all the resources don’t go to just the population centers. Hopefully in the near future, you’ll see accountable communities making sure that everybody has a stake in the welfare of their neighbors.”

Benjamin Danielson

Video for this talk is available at www.washacad.org.



Strategies for Narrowing the Gap: Policy Initiatives

Bob Crittenden

Senior Health Policy Advisor
Office of the Governor

Synopsis

My job is to think about policy. The big challenge we face is moving people from that “other” to “us.” When we talk about “us,” we are compassionate about our community. But the “other people”—often unfortunately brown, limited-English-speaking, poor people—are the marginalized. We have an opportunity to move in the right direction, and the Affordable Care Act has made a lot possible.

Healthiest Next Generation

We need to start thinking about our kids and how to make them healthier, and to focus on the most-vulnerable, highest-risk kids. With our Healthiest Next Generation program, we’re starting with messages through the schools, beginning with prevention and expanding into broader issues such as better water, causes of asthma, and infectious-disease control.

Figure 12. Washington State’s “Healthiest Next Generation” Program



Medicaid expansion

We have now added 350,000 Medicaid patients who were uninsured a year ago. The uninsured rate in Washington has decreased from 16 percent to 10 percent. It gives more people access to service, but we still have a lot of work to do, specifically for the Hispanic community, people with limited English, and much of the immigrant population.

The big experiment here is that this is the biggest income-transfer program in poverty since Medicare. We're moving a ton of money from the average population into lower incomes, where we are really going to impact what's called post-transfer income, i.e., the amount of money in people's pockets after you factor in social-service programs.

Mental health

One of the groups left out in our society is people with mental-health issues. People who aren't treated get worse and worse and can end up in a chronic mental situation, where they are really not functional. We recently passed two bills that apply directly. One restructures how we care for the mentally ill. A companion bill

takes our 1.6 million Medicaid population and brings mental health and medical services together into the clinic. You end up with fewer hospitalizations, and people are more stable and have better health. It's actually good for the cost of health care, so you win both ways—better treatment and better outcomes.

Changing the delivery of health care

We're 40 years behind almost every developed country in how we deliver health care. We need to have a much broader focus if we're going to make a difference.

We're trying to figure out how to use our purchasing power to change the way we buy health care. We have to change to a more team-based, more patient-centered system. We have experimented with a primary medical home concept that put Medical Assistants in charge of prevention. The MAs took it on and we went from 50 percent compliance with prevention—for example, of women having mammograms—to 85 percent compliance.

We need a different work force

Medical care is primarily a cultural issue. We need a diverse work force, with trained people from the community, because a lot of patient behavior-changing depends on their trust of someone else, and feeling like that person is one of them. We are talking about a role called a community health worker, who works in a team, doing the things the doctor or nurse doesn't need to do. That sort of person

“I assure you that most healthy people in our country are sicker than the sickest people in most other developed countries. And if you think that doesn't affect you—it does.”

Bob Crittenden

needs to be defined and trained so they can get into the system. But first we have to have a demand for them. In the area of telemedicine, we need to use it to help rural communities connect with a specialist, but not as a substitute for face-to-face standard care.

We have a huge challenge. It's a matter of diligence—that we as the government, and the public, work together to make the progress we need and end up with better outcomes than in the past.

Video for this talk is available at www.washacad.org.

“With the Affordable Care Act, we can start implementing things we talked about 30 years ago. It’s a wonderful time for the state to create better health outcomes, but we need to make sure we do it the right way.”

Bob Crittenden



Strategies for Narrowing the Gap: Research

Dedra S. Buchwald

Professor, Epidemiology and Medicine
University of Washington

Synopsis

American Indians and Alaska Natives suffer some of the worst health inequities of all our minority populations. But they also have great strengths and resilience. I work with the Partnerships for Native Health, and we conduct community-based action research both with reservation- and urban-based populations. Our work encompasses physical and mental health, disease prevention, health promotion and health services. We've had 45 projects funded, mostly by the National Institutes of Health. We focus on improving health through research, education, training, and technical assistance.

Inadequate funds

The county in the U.S. with the lowest life expectancy (66.6 years) is in Bennett, South Dakota. It's a reservation, and one of the poorest counties in America. Not enough money is being spent on health care for people of color. For example, the Indian Health Service provides only about 55 percent of the funding needed to provide adequate minimal health care. In addition, the annual health-care expenditure for a Medicaid enrollee is \$5,490 and for a federal prisoner is \$2,625, while the expenditure for an Indian Health Service enrollee is \$1,776.

Research strategies


First, to work in minority communities, you can't just gather data. You have to find a champion and engage the community. You have to hear the community voice. One method we use is to have people create 2- to 5-minute digital narratives about a project or health concern that can be passed around a community.

“In our Strong Heart Stroke Study, which included 12 tribes, we found that the rate of first-time strokes was almost three times the rate in whites.”

Dedra S. Buchwald

Figure 13. Motivational Interviewing

**Don't Just Collect Data:
Family Intervention in the Spirit of
Motivational Interviewing**



Study Population

- Strong Heart Family Study (12 tribes)
- 11 to 44 years of age in 360 households

Specific Aims

- Estimate intervention effectiveness to change stroke and cardiovascular disease risk scores from baseline to 1-year follow-up
- Compare changes in blood pressure and smoking from baseline to 1-year follow-up

Second, don't say it can't be done. We proposed a cerebrovascular disease study involving MRIs on 1,000 people in a dozen tribes across Oklahoma, the Southwest, and the Dakotas. Many people said that we couldn't possibly get it done. However, we recruited more than the expected number of participants and successfully completed the research four months early.

Follow the data with action

When we became aware of the first-time stroke statistics, we realized no one was addressing the problem, so we wrote a grant proposal that would offer an intervention to change lifestyle behaviors in tribal households. The community suggested actions such as culturally relevant brochures, motivational interviewing, and talking circles. As well, the Strong Heart Stroke Study found that about 30 percent of people had some level of cognitive impairment, so we developed a small study of the urban Indian American sample, because no one had ever examined that population for cognitive impairment.

Adapt research to the culture

For our cognitive impairment study, we adapted a therapy used by the Department of Defense called the interactive metronome. It is a simple device, and the patient taps in response to a repetitive tone. Two researchers—an American Indian and an Alaska Native—adapted the therapy using Native American drum music. Another study we conducted examined when under what conditions small tribes might want to participate in research. We found that, depending on the topic, tribes could find many commonalities and might group together, by disease or by geography, to participate in research.

Figure 14. Rhythm and Timing Intervention

Rhythm and Timing Intervention


✦✦✦

Specific Aims

- ➔ Improve cognitive impairment
- ➔ Decrease depression
- ➔ Enhance quality of life

Design

Randomize 150 Stroke Study participants with cognitive impairment to 5-week home-based trial of Native drum music or light exercise



Outcome

Pre- and post-cognitive and physical function and quality of life

In our study to encourage women to stop smoking and lose weight, we found that after a few months we couldn't get people to participate. We stopped the trial, listened to participants and research staff tell us about problems like transportation and logistics, then changed the protocol to fit the community's preference. Participation went up significantly.

It's also important not to make assumptions. Biobanking—obtaining biological specimens for storage for future use—had been considered taboo in Native communities because of a well-known case where Havasupai tribal specimens had been misused. However, we surveyed 300 people at community events and found that 43 percent were somewhat or very willing to donate a specimen and most would donate blood.

Native Investigator Development Program

The goal of this two-year program is to use very intensive mentoring to train young Native scientists to become independent investigators. The 47 scientists trained to date represent 30 tribes. They have been principal or co-principal Investigator on 95 funded grants, and the trainees have written over 300 papers.

“In the last 18 years, we have trained 47 American Indian and Alaska Native M.D.’s, Ph.D.’s and J.D.’s, and they have collectively been awarded \$60 million in NIH grants.”

Dedra S. Buchwald

We train the junior researchers to be rigorous scientifically and to be prepared for the arduous realities of community partnerships. If you're Native and you're going back into your own communities to conduct research, there are all kinds of pitfalls, and these junior faculty need to be ready for those realities. When people graduate from the program, we bring them into the program as mentors. This recognizes their achievements, and our scholarly legacy is passed on.

Research is just a tiny, tiny piece of the pie. Mostly what we need to change are the social determinants.

Slides for this talk are available at www.washacad.org.



Income Inequality and Health in Washington State and Concluding Remarks

Donald L. Patrick

Professor, Health Services
University of Washington

Synopsis

A best-selling new book by the French economist Thomas Piketty, *Capital in the Twenty-First Century*, is about wealth distribution, and much of it is based on the Gini index.

Figure 15. Gini Index and the Lorenz Curve

- “The average of the absolute differences between all pairs of scores, divided by twice the mean”
- $Gini = A/(A+B)$

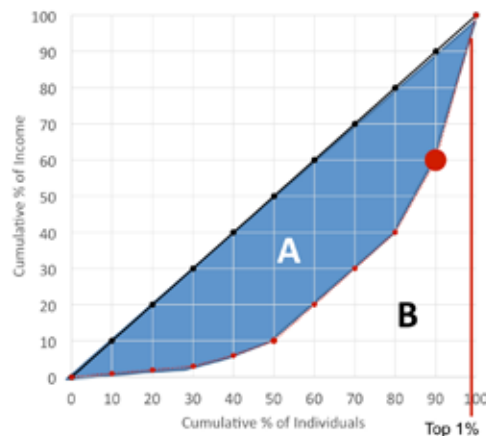
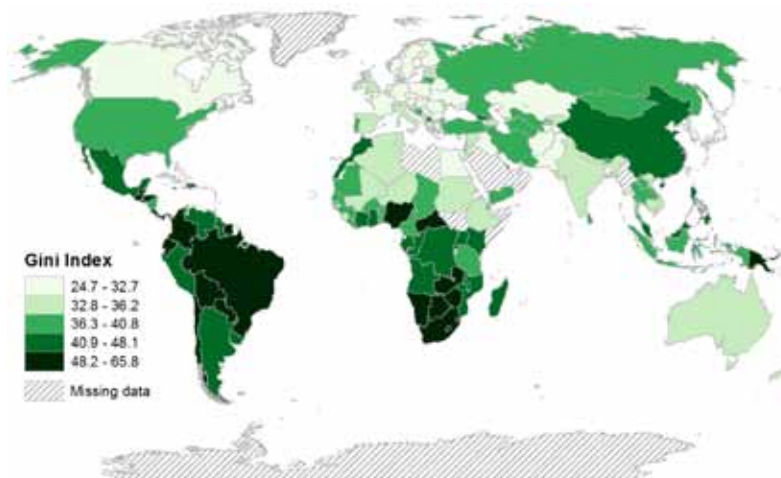


Figure 16. Gini Index, by Country



Data source: <http://data.worldbank.org/indicator>. Last accessed Nov. 2014

As shown on the previous page, on the Gini index, perfect equality is represented by the straight line. The Gini index, based on the Lorenz Curve (bottom curved line), is a graphical representation of the cumulative distribution function of the empirical probability distribution of wealth. The Lorenz Curve explains the relationship between cumulative % of individuals and cumulative % of income.

The red dot in this example shows that 40 percent own 60 percent of the income in the country, and the other 60 percent own the rest. Europe, Scandinavia and Canada—which has a Gini index of about 32—are pretty good. Washington state’s Gini index is 61.9 at the current time. A map of infant mortality rate would have a comparable look of light and dark colors. There is an association with the Gini index that for every one-point change, you get an additional one percent increase in the infant mortality rate. Internationally, higher income inequality leads to higher infant mortality.

Income inequality in the U.S.

In the U.S., income inequality has steadily risen over the past 40 years. The global picture shows a strong association between income inequality and health indicators. In the U.S., Delaware has the highest inequality, followed by New York. North Dakota is the lowest—that’s because the difference between the poor and the wealthy is not so big; there aren’t very many wealthy people in North Dakota. You can tweak the Gini index, by either lowering the income at the top or raising the income of the bottom.

“After the 1930s, the top one percent goes down until 1980, which was important in terms of social programs.

I think the end of the War on Poverty was the beginning of an upturn in inequality in the United States.”

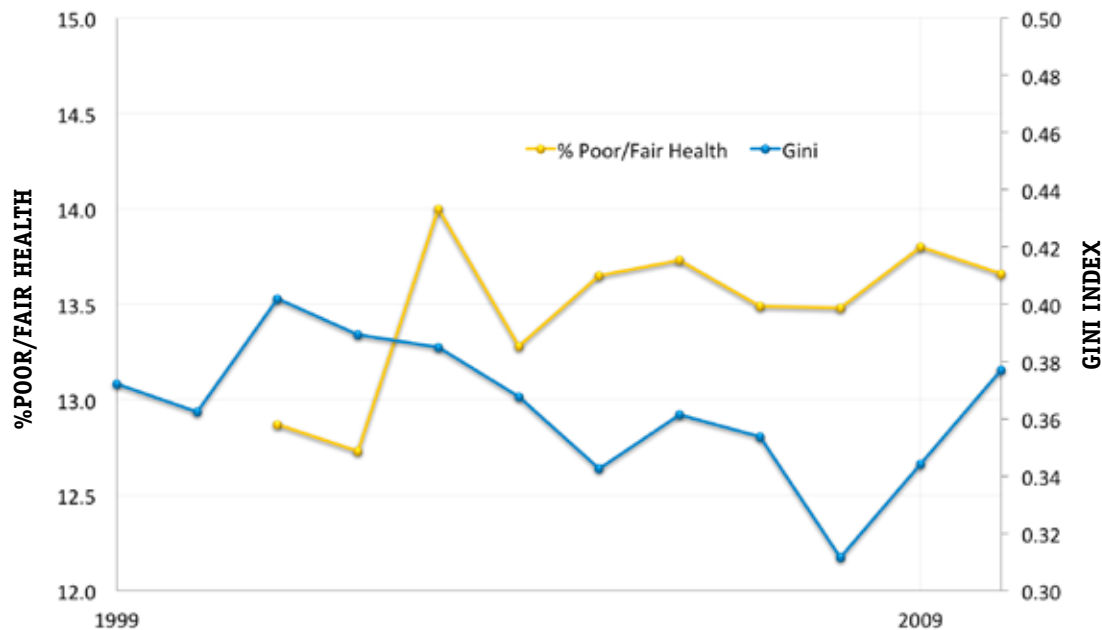
Donald L. Patrick

Washington state’s income inequality

From 1910 through 1930, the Gini index and Washington state’s top one percent pretty much follow each other. Then the top one percent goes down until 1980. The interpretation of the statistics for Washington state shows that between 1910 and 2010, the Gini index goes up and infant mortality goes down. Adding racial disparities to the comparison shows that regardless of what happens with the Gini index, the racial disparities remain pretty much constant, i.e., African Americans and American Indians consistently have higher infant mortality than for all races combined.

Comparison of the Gini index with percentage of the population in poor/fair health is another indicator. Around the year 2000, Washington state had a smaller percentage of people in poor/fair health than the Gini index, but by 2010 the percentage was higher. As the Gini index goes up and down, there is an association between fair and poor health.

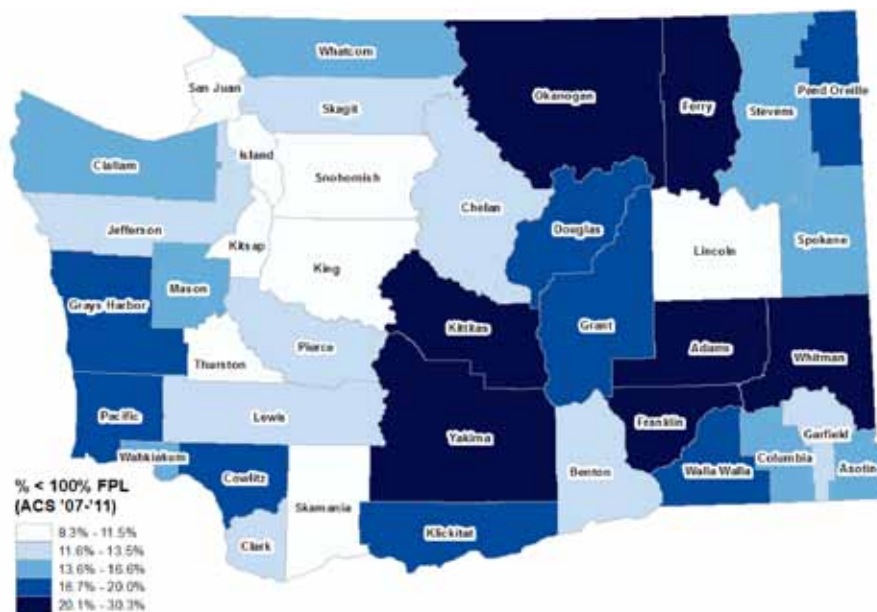
Figure 17. Gini Index and % Poor/Fair Health, Washington State



Federal poverty level in Washington state counties

Here is where poverty resides in Washington state. The light-colored counties like Snohomish and King show as low as 8.3 percent below the federal poverty level. But other counties in central and eastern Washington, like Yakima, Klickitat, Okanogan, Ferry and Whitman, reflect statistics of 20 to 30 percent below the FPL. In looking at the disparity in our counties underneath the federal poverty level, this indicates to me that there are at least two, if not three, Washingtons.

Figure 18. Federal Poverty Level by County in Washington State, % <100% FPL by County, 2007-2011



In Washington state, health disparity indicators by socioeconomic status—the percentage of poverty based on the median household income and educational attainment—are consistently related with poor and fair health. Statistics from 2001 to 2010 show that those with a household income of greater than \$50,000 are nine times less likely to rate their health as poor or fair than those with under \$15,000 household income. For educational attainment, the statistics are comparable. Those with a bachelor’s degree or higher are seven times less likely to rate their health as fair or poor than someone with less than a high-school diploma.

Income inequality in Washington state, in multi-level analyses, is not consistently associated with health indicators. But socioeconomic status indicators of poverty—median income and education—are associated with poor and fair health at both a county and individual level. Poverty is definitely a huge issue.

“Our primary policy focus might best be directed to raising the income and wealth of the poorest sector of Washington’s population.”

Donald L. Patrick

Redistribution of wealth

Addressing income inequality is important to my notion of equity and justice. Interventions at the policy and individual level may be best directed at reducing poverty and increasing education for all, which I would note is the Gates Foundation policy globally. At a state level we can work toward income transfer and increasing educational opportunities.

Slides for this talk are available at www.washacad.org.

K-12 Special Guests

American Junior Academy of Sciences Award Winners

The Washington State Academy of Sciences continues to support high school science students with our sponsorship of American Junior Academy of Sciences award winners. This is the fourth year for the WSAS award program, and two students were selected to travel with a mentor to represent Washington at the 2015 AJAS convention in San Jose, Calif. The students were chosen based on their academic record, with strong scientific merit and a strong interest in science or engineering and research. Along with four of the finalists, the winners set up project boards and reviewed them with Academy members. Parents and teachers were also present to witness their students receiving WSAS certificates and awards. K-12 Committee member George “Pinky” Nelson presented the awards and commented, “These are the top students, and they are better than ever. They have brought wonderful projects, and I encourage you to look them over and spend some time talking to the students.”



AJAS winners Swetha Shutthanandan and Bryce Hackett with WSAS President Subhash Singal

Winner Swetha Shutthanandan’s project featured a supercapacitor for ultra-fast energy harvesting. Last winter she had the opportunity to spend two weeks doing research at an accelerator lab at the University of Tennessee in Knoxville. She said, “It was really awesome. With all the environmental concerns about global warming and fossil fuels, we really need more innovation and new technologies. I want to actually make a difference.”

Bryce Hackett, whose winning project examined the effects of sucralose solutions on red worms, commented, “I’ve participated in science fairs since elementary school and I’m elated at this opportunity. I would like to go into immunology research. I come from a long line of autoimmune disorders in my family, and I see the pain that people go through. If I can make the lives of others better, I would like to try and help with that.”



AJAS winner Bryce Hackett discussing his research with WSAS Secretary Curtis Graeber

AJAS finalists

Julianna Brutman, Bianca Hoang Dang, Argho Datta, Katherine Landoni, Karthik Meiyappan, Reesab Pathak, Sophie Shoemaker, Meera Srinivasan, Thorsen Wehr

Four of the finalists attended the symposium and presented their project boards. Argho Datta brought a biofuels project and commented, “This is my first year, and I’m really excited to be here. I’m impressed by the people and the fascination they have for science.” Katherine Landoni has been creating science projects since the sixth grade, and her liquefaction research exemplified her interest in environmental science and geology. “I love science and I’d like to be doing field work and lab work. It’s awesome to come to this kind of science event,” she noted. Meera Srinivasan’s project involved toxicology studies with zebra fish, which she has been pursuing at the Northwest Science Fisheries Center, NOAA (Seattle). She was selected as one of 50 students to attend the 31st annual Research Science Institute at MIT, a summer program in which high school juniors conduct college-level research. She described it as “an incredible opportunity” and looks forward to studying bioengineering.



Students receive an educational tour of the Museum of Flight

Thorsen Wehr's research is currently being published by the *Chronicle of the New Researcher* through the Sigma Xi Scientific Research Society. His work in physics and engineering also landed him a two-week internship at the University of Washington mechanical engineering lab last summer, focusing on nano-particle self-assembly. He said, "Now I know what a research situation is like in college, and that it's a really fun and creative environment."

Program sponsors

The Boeing Company and Pacific Northwest National Laboratory

Speaker bios

Dr. Dedra S. Buchwald is a Professor of Epidemiology and Medicine at the University of Washington Schools of Public Health and Medicine, and Director of the Center for Clinical and Epidemiological Research. She received her M.D. from the University of California, San Diego, and trained at Duke University and Harvard Medical School. In collaboration with the American Indian and Alaska Native Programs at the University of Colorado, Denver, she has developed a program of research spanning a wide range of topics, including physical and mental health, career development, and health-care services. She is involved in several R01s and four program projects that address health issues in Native communities. Dr. Buchwald is the Director of the NIA-funded Native Investigator Development Program, a two-year career training program for American Indian and Alaska Native postdoctoral fellows designed to increase the number of independent Native researchers.

Dr. Anthony Chen is a family physician and Director of Health of the Tacoma-Pierce County Health Department. He grew up in Southeast Asia and the Pacific. After medical school at Duke University, he completed Family Medicine residency at the University of Cincinnati followed by a Faculty Development Fellowship at Duke University. Dr. Chen moved to Seattle, where he practiced comprehensive family medicine for 12 years. He held leadership roles in local and national efforts on hepatitis B immunization and liver cancer prevention in Asians. He obtained a Master's of Public Health at Harvard School of Public Health, and worked in clinical care while teaching at Tufts University Family Medicine Residency Program and Harvard Medical School. He serves on congressional district committees on health-care access and reform. He remains involved in teaching, and is actively engaged in oversight of and research through the Washington Public Health Practice-Based Research Network.

Dr. Bob Crittenden is the Senior Health Policy Advisor to Gov. Inslee. He is a family physician, having practiced for 28 years with underserved populations in central Seattle. He staffed the commission that developed the Basic Health Plan, was a legislative Fellow with Sen. George Mitchell of Maine, was Special Assistant for Health for Gov. Booth Gardner, and founded and led the Herndon Alliance for eight years. He also founded and directed a clinic in Rainier Beach that is now a Community Health Center. He has been a USPHS, RWJF, and Soros Fellow at different times. He is a Professor in the Departments of Family Medicine and Health Services at the University of Washington. His current work focuses on expanding access to affordable care and health-system improvements, including improved purchasing, mental-health integration, and community integration.

Dr. Federico Cruz-Uribe, M.D., MPH, has had a 25-year career in public health. He has managed public health departments in four states at the local and state levels. Most recently, Dr. Cruz-Uribe was the director of the Tacoma-Pierce County

Health Department for 15 years (1992-2007). From 2008 to 2013, he and his wife established and ran a diabetes control project in southern Nicaragua. For the last 12 months, Dr. Cruz-Urbe has been working as the Vice President of Clinical Affairs for Sea Mar Community Health Centers based in Seattle. His current projects involve developing specialty care services and a care management system for Sea Mar.

Dr. Benjamin Danielson is Medical Director of the Odessa Brown Children's Clinic. He has always been a firm believer in social justice, with a passion for a career in medicine. As a student at the University of Washington School of Medicine, he benefited greatly from the support and mentorship provided to him by the staff of the Office of Multicultural Affairs and the Health Careers Opportunity Program. His participation in HCOP helped solidify his medical aspirations, and his dedication to eliminating health disparities among minority communities has never wavered. Dr. Danielson graduated from the University of Washington School of Medicine in 1992. He actively mentors minority medical students as a preceptor-teacher. He is a true role model and mentor, and is actively committed to helping to increase diversity in the health professions and eliminating health disparities among racial and ethnic groups.

Ralph Forquera is Executive Director for the Seattle Indian Health Board and the Director of the Urban Indian Health Institute, a division of the Health Board created to document health disparities among urban American Indians and Alaska Natives. A member of the Juaneño Band of California Mission Indians, Mr. Forquera holds a Bachelor of Science Degree from San Diego State College and a Master's in Public Health from California State University, Northridge. He has a faculty appointment as a Clinical Assistant Professor with the University of Washington, School of Public Health Department of Health Services. He has worked in the health field since 1971 and held a variety of local, state and national leadership, advisory and management roles.

Dr. Maxine Hayes, M.D., MPH, served the Washington State Department of Health (1988-2013), sixteen of those years as State Health Officer. Previously, Dr. Hayes was the Assistant Secretary of Community and Family in the Department of Health. She is the recipient of the American Medical Association's Dr. Nathan David Award, the Heroes in Health Care Lifetime Achievement Award through the Washington Health Foundation, the APHA Helen Rodrigues-Rias Social Justice Award, and the Vince Hutchins Award for leadership in Maternal and Child Health. Dr. Hayes is Clinical Professor of Pediatrics at the University of Washington School of Medicine and Clinical Professor of Health Services at the University of Washington School of Public Health. She holds an honorary Doctorate Degree from Spelman College and from the State University of New York. Dr. Hayes was elected to the Institute of Medicine and is a fellow of the American Academy of Pediatrics.

Dr. Charles Hirschman is Boeing International Professor in the Department of Sociology and the Daniel J. Evans School of Public Affairs at the University of Washington. He received his B.A. from Miami University and his M.S. and Ph.D. from the University of Wisconsin. He taught at Duke University and Cornell University.

He teaches courses on demography, immigration, ethnicity, and Southeast Asia, and conducts research on immigration and ethnicity in the U.S. and on social change in Southeast Asia. He is the author of *Ethnic and Social Stratification in Peninsular Malaysia* and *The Handbook of International Migration*. He has written more than 120 journal articles and book chapters. Dr. Hirschman is an elected fellow of the American Academy of Arts and Sciences and of the American Association for the Advancement of Science. He was a visiting Fulbright professor at the University of Malaysia during the 2012-3 academic year.

Dr. Donald L. Patrick is an international expert in health outcomes in population health and clinical applications, and has analyzed health disparities for many minority populations. He is Professor of Health Services at the University of Washington and holds appointments in Sociology, Epidemiology, Pharmacy, and Rehabilitation Medicine. He is a Full Member of the Fred Hutchinson Cancer Research Center, directs the Seattle Quality of Life Group, and works on projects funded by the National Institutes of Health, AHRQ, and Industry. He is a member of the Institute of Medicine, was inaugural president of the International Society for Quality of Life Research, and received the Donabedian Lifetime Achievement award from the International Society for Pharmacoeconomics and Outcomes Research. He is author of numerous articles, and co-author of the books *Health Status and Health Policy*, and *Hope or Hype: The Obsession with Medical Advances and the High Cost of False Promises*.

Dr. Beti Thompson is Professor of Health Services at the Fred Hutchinson Cancer Research Center. Her research is designed to help determine the precursors to cancer, and to build the capacity of community-based researchers to investigate, educate, and treat local populations to improve early detection and survival rates. Much of Dr. Thompson's work focuses on the Latino population, with a specific emphasis on cancer prevention and cancer screening for breast, cervical, and colorectal cancers. She has written many papers and chapters on community organization as a strategy for developing community partnerships. Dr. Thompson's focus on health disparities research is exemplified by a number of projects, including "Hispanic Community Network to Reduce Cancer Disparities" and "Partnership for a Hispanic Diabetes Prevention Program," both in Yakima Valley. The projects work with local Community Advisory Boards to guide and lead activities to reduce health disparities of cancer and diabetes.

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