

Northwest Public Health

Fall/Winter 2010 Volume 27 Number 2

Healthy people.

Community-based
prevention.



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Cover photo: Shopping for vegetables at Seattle's University District Farmers' Market, photo courtesy Barbara Wright. Underlay photo on facing page shows Five Acre Farm produce for sale in Lake Forest Park, courtesy Karen True.

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Northwest Public Health Fall/Winter 2009 won an APEX Award for Excellence and was named "Distinguished" in the 2009-2010 International Technical Publications Competition sponsored by the Society for Technical Communication.





A Region Rich with Promise

Northwest Public Health is more than the name of an award-winning journal; it is a mission, shared by men and women in health departments, clinics, academic institutions, community and nonprofit organizations, private firms, and public agencies across Washington and throughout the region. And it's a mission I have enthusiastically embraced as the new Dean of the University of Washington School of Public Health.

This August, Joanne and I drove cross-country from Atlanta, passing through Wyoming, Montana, Idaho, and eastern Washington on our way to Seattle. It was a beautiful trip, and it highlighted many features of the region that are relevant to public health. We saw phenomenal natural beauty, which was a balm to the soul, an invitation to outdoor physical activity, and an inspiration for sustainable development. We also saw environmental depredations such as huge slag piles near mining sites. We saw reminders of rich ethnic diversity—Indian reservations, Hispanic farmworkers, South Asian hotel owners, and African-American and Chinese families in parks and restaurants. We saw grim evidence of

economic disparities—run-down neighborhoods in small towns and large cities, substandard housing, and a long line every day at the soup kitchen in Seattle's University District.

We saw examples of public health victories—seat belts in use by almost every driver and passenger, virtually nobody smoking in restaurants or other public buildings. We saw examples of policies and practices in other sectors that have great relevance to health: energy (if you haven't visited the Grand Coulee Dam, go see it!), transportation (living near the Burke-Gilman Trail, I haven't once driven a car to my office at UW), and agriculture (Seattle's farmers' markets offer a cornucopia of locally grown, organic, and healthy food). And we saw poignant reminders of the distressed economy, such as important government facilities shuttered by furloughs.

All of these are calls to action—reminders of public health triumphs that need to be sustained and challenges that need to be met. At a time of dynamic change and painful budget cuts, we need to strive for "healthy people in healthy communities" as effectively and as efficiently as possible. Three themes are exemplary:

- We need to push for Health in all Policies—for transportation systems, food production, energy choices, and housing programs, that explicitly and demonstrably promote health.
- We need to move seamlessly from the local to the global, aware that the causes of disease, and the strategies for advancing health, know no borders.
- As the Patient Protection and Affordable Care Act is implemented, we need to be dogged in assuring that the health system addresses leading public health priorities, collects and manages data effectively, reaches the neediest, controls costs, and constantly improves the quality of care.

The traditional three-pronged mission of academic institutions—teaching, research, and service—is admirably suited to these public health challenges. The UW School of Public Health has a superb track record in advancing knowledge through research, in training the next generation of public health leaders, and in serving the community, the state, the region, and the world. We need to redouble our commitment to each of these realms, not just individually, but in combination. Imagine a methodologically sophisticated research project addressing an important public health question. Imagine public health practitioners and the affected community working together to define the question and plan the research. And imagine students collecting the data, interacting with the community, and learning through doing. Linking academic research, practice, and teaching in this way advances all of the School's goals.

As I interviewed for the Deanship at the School of Public Health, more than one person, demoralized by budget cuts and growing competition for grants, asked me incredulously, "Why would you want this job?" Easy! No bump in the road can change the basic realities: a superb institution; dedicated, convivial faculty, staff, and students; a mission that matters deeply; the opportunity to serve; and a spectacular place in which to do our work. I am passionate about the work we do, and am delighted, energized, and honored to be here.

In the short term, I hope you enjoy this issue of *Northwest Public Health*, with its critical theme of community-based prevention. In the slightly longer term, on my own behalf and on behalf of the UW School of Public Health, I look forward to meeting and collaborating with the public health community across the region, as we work toward our shared goals.

A handwritten signature in dark ink, appearing to read 'H. Frumkin'.

Howard Frumkin, Dean
UW School of Public Health

Building Health in Communities

There is a widespread sense that public health is in a time of significant transition. Driven both by anticipation of changes from health care reform and by the pressures of shrinking budgets for health departments, many people are considering the question, “What should be the fundamental roles and activities of public health in the current era and in the future?” Declining resources bring urgent discussions about prioritizing services for governmental public health agencies. If health care reform realizes its promise and does, in fact, result in most people having access to medical care, including preventive services, what roles should health departments play in providing clinical services (Tuberculosis? Sexually transmitted infections? Adolescent clinics? Immunizations?). And what should be the roles for outreach programs for preventive services and for promotion of access to care (The breast and cervical cancer program? Adolescent pregnancy prevention?) To truly foster a healthy next generation, access to medical care will not be enough. “Health care reform” must reach beyond medical care and into communities.

While many features of public health systems will need to respond to these evolving challenges, two traditional public health roles consistently emerge as fundamental for the future: engaging communities and focusing on prevention. These are the theme of this issue of the journal: public health’s role in working with communities for prevention and health promotion.

In this issue of the journal, public health leaders from Idaho, Oregon, and Washington suggest ways that our nation — and our profession — might better integrate clinical and preventive care. Our lead authors, David Fleming, Hilary Karasz, and Kirsten Wysen, describe this as a “transformational” moment in the history of public health. Bobbie Berkowitz, who recently left the University of Washington to accept a deanship at Columbia University, describes public health as more relevant than ever in creating a just society and healthy communities. Mel Kohn, Oregon’s Public Health Director, envisions a new appreciation for preventive measures throughout the health spectrum. And Steve Helgersen, Montana’s State Medical Officer, talks about the work that needs to be done if health care reform is truly to enhance community-based prevention.

This issue’s peer-reviewed articles explore several meanings of community, from employee wellness incentives, to walkable and livable community design, to legal frameworks that can support community-based prevention. Three articles provide tools that public health can use to ensure equity among our communities: accreditation of state and local health departments, use of county health rankings, and community-based participatory research. The interdisciplinary nature of public health is reflected in articles by a human resources analyst, an attorney, and a dental student.

We would also like to note another significant transition — the arrival of a new Dean for the School of Public Health, Dr. Howard Frumkin, as Dean Patricia Wahl steps back into the role of faculty. Both have been strong advocates for connecting public health practice and academia. We thank Dean Wahl for her past support for the journal and other activities, and we welcome Dean Frumkin to the *Northwest Public Health* community.



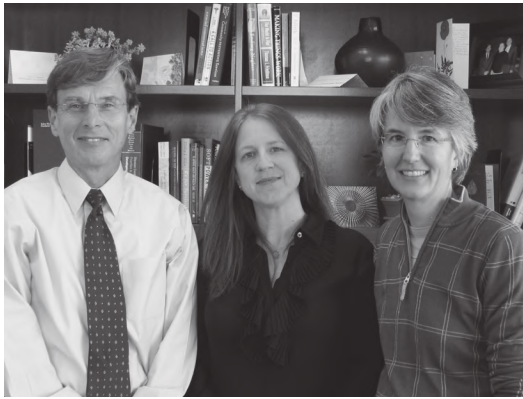
Susan Allan, Editor-in-Chief
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The mission of the journal is to provide a forum for practitioners, teachers, researchers, and policy makers in public health to exchange ideas, describe innovations, and discuss current issues.

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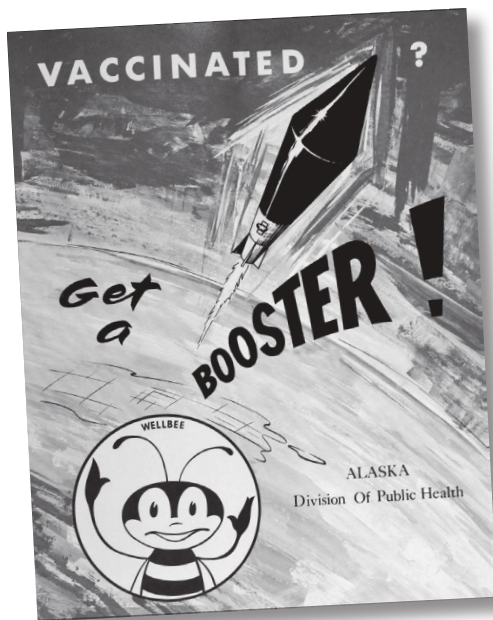
David Fleming, Hilary Karasz, and Kirsten Wysen
Photo courtesy Sharon Bogan.

Interesting Times

By David Fleming, Hilary Karasz, and Kirsten Wysen

“A crisis is an opportunity riding the dangerous wind.”

– Chinese Proverb



New Technology: Then

This 1964 poster, used by Alaska to promote vaccinations, features the CDC's symbol at that time of public health, the Wellbee. Photo courtesy CDC Public Health Image Library.

One of the few things we seem to be able to agree about in our country these days is that we are still suffering through the worst economic recession in decades. And, as most of us in public health practice can attest, a consequence has been several very tough years of intense downward pressure on agency budgets with seemingly more in store for the foreseeable future. Across the country, public health workers are being laid off and public health programs are being dismantled. While many policy makers still speak to the power of prevention, when push comes to shove, budget actions to back this talk are increasingly rare.

For those of us in the choir of the church of public health, these actions seem both unwise and unfair. After all, there's plenty of money for health. Health care spending now consumes 17 cents of every dollar that passes hands in this country. And public health activities are the ones with the best track record in creating health. Most of the 30 year average increase in life span we've enjoyed over the past 100 years is from public health programs like immunization, improved sanitation, and public health services for young mothers. Infant mortality rates are down fifteenfold, tuberculosis is an oddity, and death and illness from childhood infectious diseases have become so rare that the nature of pediatrics has been transformed. We cannot be too proud of these successes.

Actually we can. It doesn't take too many steps into that larger world beyond the walls of our public health church to walk headlong into harsh reality. First—let's face it—we've never been high on the budget hit parade even in good times. And second, our remarkable historical victories are putting us at increasing risk for becoming victims of our own success, as we are viewed as focusing attention and resources on issues that are no longer part of mainstream health concerns. Public attention and funding are being drawn away from public health to issues perceived as more important. After a century of protecting people's health, few people really understand what it is we now do.

So, is it time to quit or move to a developing country where we might be more appreciated? The three of us think not, for there is still much to be done, and with crisis comes opportunity for change.

Protecting the core

First though, let's specifically affirm what should not change—our mission. Simply put, public health must continue its core work to make sure that every member of our community has the best opportunity to live as long and as healthy as possible (in public health speak, “to create conditions in which each resident can maximize the number of healthy years he or she lives.”) We ensure this by mobilizing our many partners, judiciously using available resources, and applying scientifically proven methods to attack the leading causes of preventable death and illness.

What has changed over the past century is the nature of these preventable deaths and illnesses. In 1900, the three leading causes of death in this country were: 1) pneumonia, 2) tuberculosis, and 3) diarrhea. In 2010, they are: 1) heart disease, 2) cancer, and 3) stroke. As death and disease from infectious disease and infant and maternal mortality fell and those from chronic disease rose, our jobs should have followed this same epidemiologic transition. In general, they didn't. While we can rightfully scapegoat some of the blame to political and financial realities beyond our control, as a discipline, we have been slow to see and fully embrace our new work. Chronic disease and injury are now the leading causes of preventable death and it's time to confront them head on. Sadly, there is no shortage of work. In fact, it may well be that the current generation will be the first on record where children don't live as long as their parents.

So does this mean we should stop our communicable disease control programs and services for mothers and infants? Of course not. We absolutely need to protect these successes with ongoing, active programs. But to remain relevant in the 21st century we can and must also focus our work on where we can make the most difference within and across our portfolios. And yes, to make changes that will meaningfully reduce rates of chronic disease and injuries, we do need more money. But, to both argue the best possible case for more money to our funders and to do the job competently, we also need to look in the mirror at our credibility and core business practices.

Applying Business Practices

We need to learn to prioritize rather than spreading resources so thinly across so many issues that nothing gets done. We can't do everything; let's make sure each of our programs and activities works towards important and achievable goals. This doesn't mean we toss good programs that work just because they don't address obesity, but it does tell taxpayers that in tough times, we can be disciplined about how we choose to spend their money. Our argument for more funding can't be based on a "moving forward to the past" message.

We must make accountability central to any work we do, and demonstrate that we are committed to performance. For too long, we've just re-upped programs and activities because they're what we've always done, not because they're still the most effective ways to reduce disease. Let's get real. Our funders—taxpayers—are increasingly dubious that government can be trusted with their hard-earned money. Let's prove them wrong by supporting accreditation, and using zero-based budgeting and return-on-investment analyses. No program funds should be taken for granted and all programs should prove their worth. The process does not have to be onerous, but will send a message to our funders that every dime we're given is spent to maximum effectiveness.

Our core business models need to evolve. We can make greater use of new information technologies such as social media and mobile approaches such as text messaging to promote changes in our communities that can improve health. We need staff with information technology expertise to inform public opinion and link like-minded individuals and organizations to create political momentum.

The kinds of illnesses that are making us sick and killing us before our time do not all

We need to learn to prioritize rather than spreading resources so thinly across so many issues that nothing gets done.



New Technology: Now

We can make greater use of new information technologies such as social media and mobile approaches like text messaging to promote changes in our communities that can improve health. Photo courtesy Northwest Center for Public Health Practice.

Authors

David Fleming, MD, is the Director and Health Officer at Public Health - Seattle & King County. He previously directed the Bill & Melinda Gates Foundation's Global Health Strategies Program, was Deputy Director of the Centers for Disease Control and Prevention, and was State Epidemiologist of Oregon. Hilary Karasz, PhD, is a Public Information Officer and communications researcher, and Kirsten Wysen, MHSA, is a Policy Analyst, both at Public Health - Seattle & King County.

lend themselves to the regulatory approaches that have made confronting infectious disease so successful. And one-on-one health delivery will not be enough to get us where we need to be. We need systems, environment (including the food and built environments), and policy changes that will allow each person to make the healthy choice the easy choice.

Creating healthy communities

Some examples: Let's help neighborhoods provide sidewalks and safe routes to schools so that children walk rather than get fat in the family minivan. Let's make sure each neighborhood has at least as good access to healthy, nutritious, fresh food as it does to calorie-dense, low-nutrient fast food. And the evidence shows that our new, preventable causes of death do not affect the people we serve evenly. Across race, class, and neighborhoods, some people simply do not have the same opportunity to live as long and as well as others. We have created communities that do not allow making the healthy choice a practical choice. Let's make it so that not smoking is the social norm, not just in affluent neighborhoods but in every community in our region.

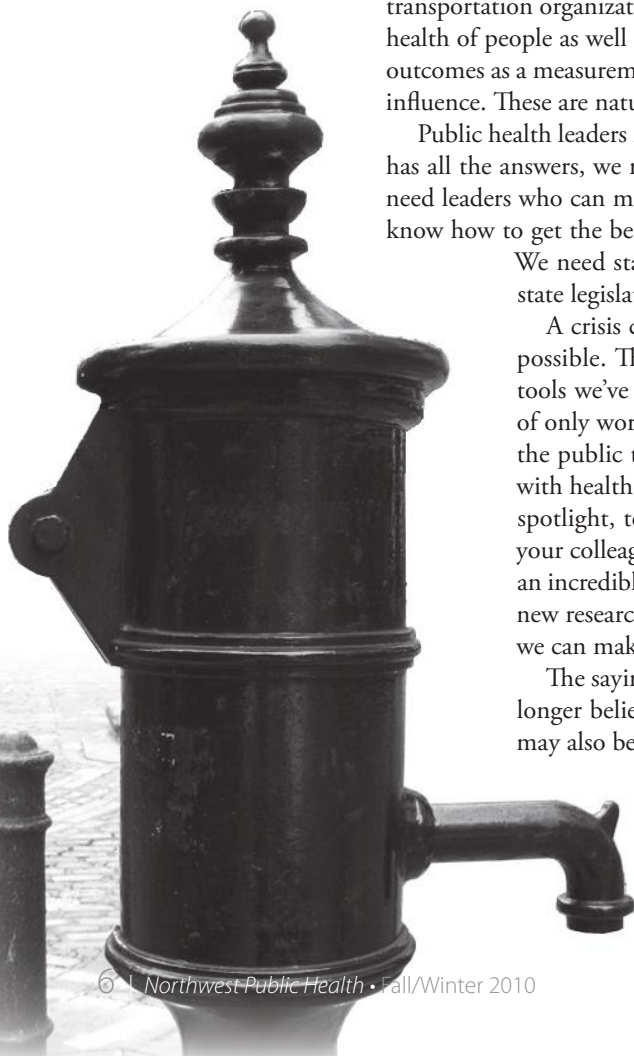
We need to work with and in our communities more closely, and learn how to be advocates for the health of our residents. Community development is public health work. We're extremely lucky in that people understand and value the concept of good health for all—and we need to use soft power to make our goals our community institutions' goals as well. What educator doesn't understand that healthy children are better learners, and what transportation organization doesn't agree that getting people out of cars and into mass transit is good for the health of people as well as the environment? And making the case that communities developed with health outcomes as a measurement of successful development can bring the financial community into our sphere of influence. These are natural allies who can do the work of public health, and we should ensure that they do.

Public health leaders must be up to the task. Rather than assuming that time-on-the-job means the leader has all the answers, we need leadership training and mentorship at all levels across our organizations. We need leaders who can make the tough decisions and manage a crisis but also have adaptive leadership skills, know how to get the best ideas from their employees, and are willing to try new things and test new ideas.

We need staff with skills and training to develop and push policy agendas through local and state legislative bodies and change the practices of private organizations in their communities.

A crisis can create the unique window of opportunity that makes transformational changes possible. The new strategies and techniques we need now are profoundly different from the tools we've relied upon since John Snow pulled the pump handle over 100 years ago. Instead of only working for the public as their protector and provider, increasingly we must work with the public to find policies and systems changes that will get us all where we need to go. And with health care reform enacted and on the books, we have a new chance. We need to grab the spotlight, tell our story, plan our change, and move public health forward. Start talking with your colleagues and employees now about what our future looks like. Remind them that this is an incredibly exciting time to be in our profession and that health care reform, federal leadership, new research, and new partners are bringing innovative ways of thinking and working on ways we can make communities healthier.

The saying "May you live in interesting times," often cited as an ancient Chinese curse, is no longer believed to be either ancient or Chinese. Applied to today's public health landscape, it may also be time to stop thinking of it as a curse and instead as a blessing. ■



At left, John Snow's legendary pump handle missing from a replica of the water pump in London, England. Photo courtesy Kathy Hall.

Moving Forward with Confidence

By Bobbie Berkowitz

Recently I began to think about a change in course after 38 years in public health as a public health nurse, administrator, and academic—perhaps spending more time improving my golf game or making good on that dream of seeing every national park in the United States. Instead I have decided to move to New York City as the Dean of the Columbia University School of Nursing. Clearly, I am excited about creating a new sense of purpose and collaborating on a new blueprint for education, practice, and research at Columbia. I find myself taking stock of those experiences that enable me to take this next step with confidence.

At times I have questioned whether our society and its people are in a better place because of the practice, research, and innovation credited to public health. It is easy to be cynical given the current state of our public health infrastructure and funding. However, I believe we are more relevant than ever in improving population health, more influential in creating a just society, and more powerful in bringing about change in the conditions within which people can thrive. Three important examples of our strength are worth celebrating.

Building Public Health Research Capacity: Public health often operates with limited evidence that our best practices are effective in organizing, financing, and implementing programs essential to the improvement of population health. Seeking ways to expand the evidence base and translate research into practice, the Robert Wood Johnson Foundation has supported the development of public health practice-based research networks across the US. In our own state, the Washington Public Health Practice-Based Research Network began as a collaborative of nine local health departments, the UW Schools of Nursing and Public Health, the Washington State Association of Local Public Health Officials, and the Washington State Department of Health. The network is conducting several research projects to address the delivery and effectiveness of public health practice in Washington State.

Public Health Accreditation: For years we have understood the importance of setting standards and measures for outcomes in public health. The inability to answer questions about how well our system performs has put us at a disadvantage with policy makers and the public. Now, however, a national effort to advance quality and performance

through a system of accreditation is underway. The Public Health Accreditation Board (PHAB) has led successful efforts to provide performance feedback on quality and accountability to policy makers and communities about the effectiveness of public health practice, and to recognize the expert practice of the public health workforce.

Health Equity: It has long been a goal of the CDC's Task Force on Community Preventive Services to establish an evidence base for public health practices that reduce or eliminate health disparities. Emphasis is on the root causes of health disparities that address the social environment, neighborhood conditions, employment, health promotion and a supportive policy environment. A lack of evidence has limited the ability of public health to make major gains in reducing inequities in health. However, the National Association of County and City Health Officials and the documentary *Unnatural Causes* have sent powerful messages about the role social circumstances play in health and have catalyzed action across the nation. A team from the UW (myself, along with Betty Bekemeier and Carly Kaufman) studied the evidence base for practices aimed at reducing health disparities and for improving health equity (the Public Health Experience with Health Disparities funded by RWJF). Among many findings, we discovered that more than 50 percent of the local health departments in our sample were operating programs that addressed societal and social inequalities through improving community safety, social capital, and health policy. I think we can expect to see more of these best practices aimed at upstream approaches.

And so I begin this new chapter in my life with confidence. Public health has instilled in me a collaborative spirit, a commitment to a more progressive and prosperous society, and a belief that we can create a more just society. ■

Author

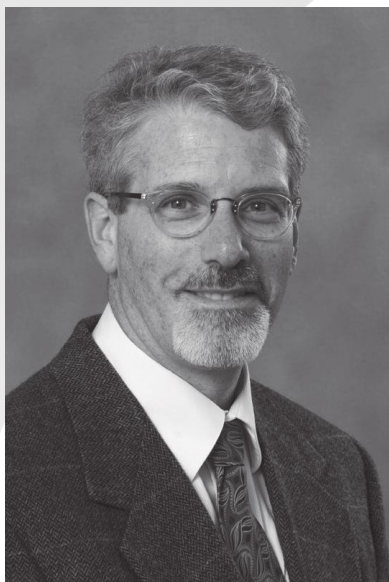
Bobbie Berkowitz, PhD, RN, FAAN, a Professor Emeritus in the University of Washington School of Nursing, recently accepted the deanship of the Columbia University School of Nursing in New York.



Further Reading

Unnatural Causes, www.unnaturalcauses.org/index.php

Washington Public Health Practice-Based Research Network, www.kingcounty.gov/healthservices/health/partnerships/pbrn.aspx



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Mel Kohn, MD, MPH, is Director of Oregon Public Health, which is part of the Oregon Health Authority. Previously, he worked in the Louisiana Office of Public Health and taught at Tulane University School of Medicine. He is board-certified in pediatrics and preventive medicine.

Health Care Reform and Injury Prevention

By Mel Kohn

One of the major drivers for health reform has been the increasing cost of providing health care. Health care now accounts for almost a fifth of the United States' Gross Domestic Product. For businesses providing health

insurance to their employees, the costs of doing so have become extremely high. Climbing health costs have also put enormous strains on state budgets, leaving less and less available for other critical services, such as education, human services, and public safety. These economic pressures have opened the doors for new approaches to containing health care costs.

While it may sound odd to those of us in public health, investing more substantially in prevention is one of those "new" approaches that has been gaining traction. A recent study commissioned by the Northwest Health Foundation demonstrated that, from 1999 to 2005, roughly a third of the growth in health insurance premiums in Oregon could be attributed to the increasing prevalence of obesity. There is growing acknowledgement that unless factors like obesity and other major drivers of the need for medical care are effectively addressed, even a major restructuring of health insurance financing, which is still the dominant approach to reforming health care being discussed around the country, can create a sustainable business model for our health care system.

Unintentional and violent injuries are among the major drivers of the need for both physical and mental health care. Injuries are a major cause of morbidity and mortality across the country. Injury is the third leading cause of death in Oregon, causing more than 2,400 deaths in 2007, behind only cancer and heart disease. Its disproportionate impact on young people makes injury the leading cause of years of potential life lost.

Because of the enormous burden of injuries, public health practice has begun to use our core tools of assessment, policy development, and assurance in this area, but these efforts are still very limited at the state and local level. As for many areas of public health practice, health education is not likely to

effectively and durably prevent injuries, unless it is coupled with policy changes and efforts to address factors in the physical and social environment that influence the occurrence of injuries.

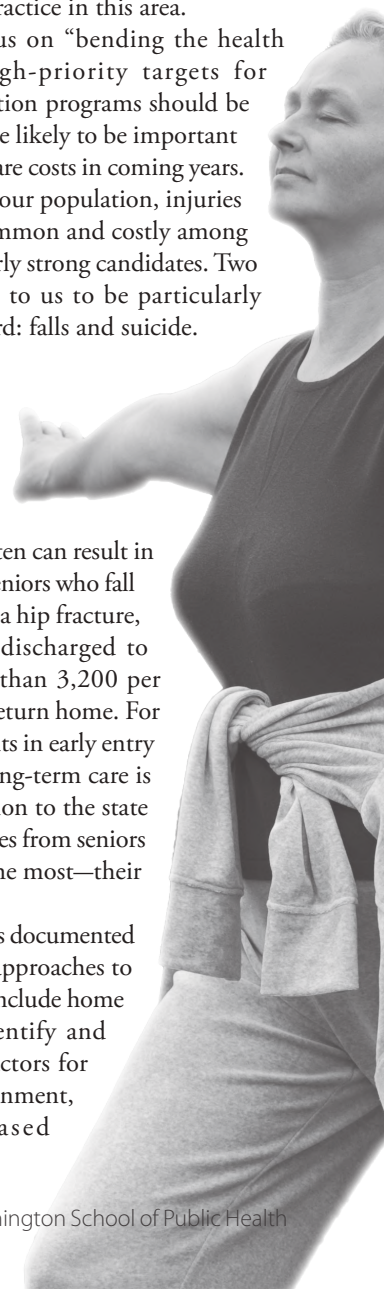
Injuries are not accidents (despite the longstanding use of that term in common parlance). They are predictable and therefore preventable, at least in part by public health intervention. In our view, the increasing enthusiasm for prevention as part of health reform is an opportunity to substantially expand public health practice in this area.

Because of the focus on "bending the health care cost curve," high-priority targets for development of prevention programs should be on those injuries that are likely to be important contributors to health care costs in coming years. Because of the aging of our population, injuries that are particularly common and costly among the elderly are particularly strong candidates. Two kinds of injuries seem to us to be particularly compelling in this regard: falls and suicide.

Falls

Falls are a serious problem for all ages, but especially for older adults in whom a fall often can result in a hip fracture. Among seniors who fall and are hospitalized for a hip fracture, about 60 percent are discharged to long-term care—more than 3,200 per year—and many never return home. For many seniors, a fall results in early entry into long-term care. Long-term care is the most expensive option to the state and individuals, and takes from seniors what they often value the most—their independence.

Extensive research has documented effective public health approaches to falls prevention. These include home visiting services to identify and remedy physical risk factors for falls in the home environment, and community-based



physical activity promotion using techniques such as tai chi, which can improve balance and bone density. These kinds of interventions also reduce social isolation and depression, which can produce a wide range of health benefits.

Suicide

Like falls, suicide is major driver of morbidity and mortality with particular impact on older adults. In Oregon, suicide was the eighth leading cause of death in 2007, and suicide rates among those over age 65 are double those of people aged 10-24.

Health care providers have an important role to play in preventing suicide, especially among older adults. Among older adults who died by suicide in Oregon in 2008, 21 percent visited their health care provider in the 30 days before their death. At these visits, appropriate assessment, treatment, and referral may have prevented some of these deaths.

But interventions that occur only in a health care provider's office will not be enough to address this problem. Community- and home-based approaches that reduce social isolation, create opportunities to identify those at risk for suicide, and support connection

to appropriate treatment have enormous potential. For example, a small pilot study from

Italy that implemented regular calls and contact with a group of adults at high risk for a variety of poor health outcomes produced almost a 70 percent drop in suicide rates. This low-cost social support intervention also yielded direct health care cost savings, as evidenced by fewer visits to emergency departments and primary care practitioners.

Funding reform

A major barrier to implementing these and other injury prevention programs that have the potential to "bend the health care cost curve" is lack of sustainable funding for these efforts. Public health should seize the opportunity created by policymakers considering how to reform health care payment

structures, and push for opportunities to expand injury prevention activities around the country. For example, the 9:1 federal match for the Oregon ContraceptiveCare Program has been a major driver of the growth and stability for that program. Why not use a similar mechanism to drive the development of community-based injury prevention programs in states? We should look for novel ways to use existing funding streams and also advocate for reinvestment of savings from other health reform efforts in order to strengthen community-based injury prevention activities.

To implement this approach, vision is needed

at the federal level; federal policymakers will have to open the door for it. Among some influential policymakers, there is a great deal of skepticism about the effectiveness of public health prevention programs. Changing those minds will require advocacy in the long term, and the cultivation of champions with the influence to change minds.

At the state level, one way to help change those minds is to use our systems as laboratories to demonstrate the feasibility and effectiveness of these approaches. Oregon has had extensive experience with obtaining Medicaid waivers for the Oregon Health Plan. We should be exploring ways to obtain waivers that will allow us to expand our injury prevention programs. As some specific examples of this, the Oregon Health Policy Board is actively considering ways to expand the role of community health workers in some communities, and to structure the state's health care purchasing in order to provide more incentives for health care providers to address clinically-based prevention activities; both of these changes can potentially synergize with community-based injury prevention efforts.

Community-based prevention has never been needed more than it is today. The good news is that public health approaches are gaining traction. It is up to us to be persistent and innovative in our efforts to promote injury prevention practice at the state and local levels. ■



The EnhanceFitness program serves older adults in Seattle, Washington.

Photos courtesy the Health Promotion Research Center at the University of Washington.



Will Health Care Reform Enhance Community-Based Prevention?

By Steve Helgerson

My answer: it might.

In my view, it would be prudent for state health departments to designate a work unit to encourage and support local health department efforts to demonstrate public health-clinical collaboration that achieves measurable prevention goals. Such a collaboration would increase the

chance that activity related to the Patient Protection and Affordable Care Act will be associated with improved community health status.

A prevention strategy, intended to improve health status for an entire population, is fundamental to public health. While some public health strategies—such as those that assure clean water and food—are best conducted and controlled by public health agencies, others such as delivering vaccine to children are best applied through collaboration between public health and clinical settings.

Public health-clinical collaboration is relevant for diseases that contribute to most of today's mortality and morbidity. During the past decade, heart attack incidence in the community-based population served by Kaiser Permanente in Northern California decreased 24 percent, almost certainly because of the combination of community-wide efforts to decrease the prevalence of smoking and secondhand smoke exposure accompanied by clinical efforts to lower levels of low-density lipoprotein cholesterol and blood pressure. This success reminds us of exciting opportunities to improve the health status of populations across the Northwest. To do this will require development and delivery of strategies for today's real public health risks and diseases.

Health care reform and population health status

The Affordable Care Act includes some sections intended to support community-based prevention, though most of the law pertains to health insurance coverage and selected aspects of health care delivery.

The potential impact of an intervention is related to how broadly it affects a population. If an intervention could change socioeconomic factors or make healthy options available by default, such as

with fluoridated water supplies, then the impact can be great. If an intervention can have long-lasting benefit when only delivered once or infrequently, such as vaccination, the impact can also be substantial. On the other hand, if intervention requires ongoing contacts in clinical settings or counseling individuals to change behavior, then detectable impact on a population is unlikely.

The Affordable Care Act authorizes grants that address a variety of health issues ranging from chronic diseases and childhood obesity to pain management and assistance for pregnant teens. Grants are also planned for evidence-based community prevention services and for state Medicaid initiatives to encourage behavior change to reduce weight or blood pressure.

Grant-funded research may provide evidence for implementation in community-based programs. To guide and support this, a national Public Health Council and Prevention and Public Health Fund have been established. Action steps intended to have community-wide impact have been mandated, such as listing calorie counts for foods in certain restaurants and vending machines, and an oral health care prevention campaign. While these steps and subsequent prevention programs have potential for measurable impact, documentation will require careful surveillance. I wouldn't be surprised to see considerable resource channeled to "community-based" activities for which belief is strong, but evidence of effectiveness is absent.

The law will increase the proportion of Americans with health insurance, and emphasize prevention services in health care settings. Funding seems certain to expand the number of community health centers, enhance information technology infrastructure in many health care settings, and encourage availability of "medical homes" for patients.

My bottom line is that health care reform **may** enhance community-based prevention. Strategies that include, or even better emphasize, public health-clinical collaboration are likely to yield measurable benefits. Expanded health care services are less likely to have a detectable impact on community health status, unless they are closely aligned and coordinated with broad public health strategies. ■

Author

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Further Reading

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Employee Wellness at Snohomish County Government

By Rebecca Olin

Rachael McNeil works as the Senior Secretary of Public Works at Snohomish County government. She spends most of her time behind a desk helping others. Before 2007, she was 100 pounds overweight and taking multiple medications to control her health. She knew she should exercise and eat right, but could not find the motivation.

Snohomish County's wellness program, "Partners for Health," provided the catalyst for McNeil to take control. "When we did the first health assessments and screenings in August 2007, I got some bad results that required follow up with the doctor. The harsh reality hit me when speaking with the health coach. She agreed with my doctor that a large weight loss, 130 pounds, was in order. So, I had a pity party for a while, did my research, and got started on December 23, 2007."

Three years later, McNeil has maintained a 115 pound weight loss. "My weight loss is not just a result of the wellness program, but that is what got me started in the right direction," she says. She no longer takes any medication and lives a healthy lifestyle. She teaches Zumba (a type of aerobic dance) six times a week and participates in organized races. "The County did a great thing by creating the wellness program. I wish I had figured this all out sooner, but I believe things happen when they're supposed to happen. It's nice to be an example to others and show that eating healthy and exercising can get you to your goals."

The focus of Partners for Health is preventive, bringing flu vaccination clinics and health screenings to the workplace. The comprehensive strategy includes lunch-and-learn workshops, physical activity challenges, gym discounts, health coaches, tobacco cessation support, Weight Watchers at Work, and healthy snacks in the vending machines.

Employees who participate in Partners for Health earn a yearly financial incentive by completing Wellness Action Tasks and biometric health screenings. The incentive value is determined each year during the budget process. On average, the incentive is \$125.

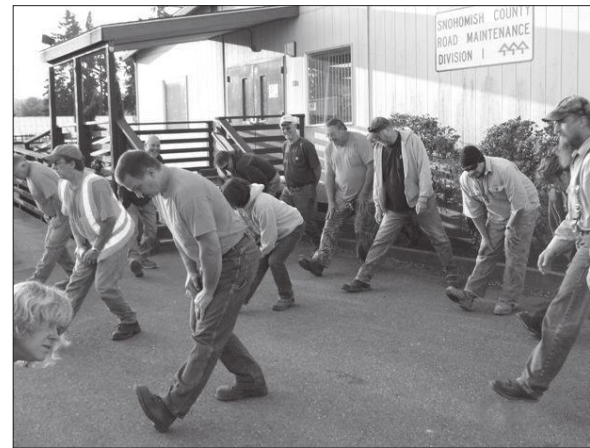
Wellness Action Tasks require a commitment. The employee must choose a new and healthy

behavior or activity for the year. This behavior or activity may include anything from running a race, completing a series of lunch-and-learn workshops, becoming certified in cardiopulmonary resuscitation, quitting smoking, or adopting a dog from a local shelter and taking the pet on daily walks.

Biometric Screenings include measuring height, weight, waist circumference, blood pressure, total cholesterol, LDL, HDL, triglycerides, and fasting blood glucose levels. These screenings are conducted at the workplace by third-party health care professionals.

The County created its wellness program to improve the health, productivity, and presenteeism of employees (being present at work is a measure of on-the-job effectiveness) while decreasing health care utilization and associated medical costs. The development team included representatives from Human Resources, Finance, Risk Management, County Council, Executive's Office, and the unions. "The Union thinks that the long-term effort undertaken by the County wellness initiative, Partners for Health, can only result in a healthier workforce and a slowing in the increase of medical insurance costs," says James Trefry, Staff Representative for Washington State Council of County and City Employees, Council 2, AFSCME. After assessing costs and benefits, the wellness program was given a green light by the County in 2006. Its long-term success, however, remained in the hands of employees.

Employee trust was required for a successful launch. A survey indicated general support for wellness, but workers expressed concerns about the potential misuse of personal health information. To address these concerns, a committee selected a HIPAA-compliant, third-party administrator to manage the aspects of the program involving individual medical data.



Snohomish County's Arlington Road Maintenance shop stretches before beginning the day's work.

444 Snohomish County's

Partners for HEALTH

Your Wellness Investment Program

The “Wellness Road Show” represented an additional effort to earn employee trust, create transparency, and address concerns. Program administrators visited work sites, explained the program, and answered questions. Employees were given a chance to name the program and guide design of its logo. Thus, Partners for Health was born.

The first biometric screenings took place in August 2007. A professional health care team, managed by the third-party administrator, assessed 1,320 employees at multiple work sites. That fall, the first flu shot clinic provided vaccinations to 50 employees, who self-paid \$28 per shot.

The next biometric screenings took place in September 2008. The health care team returned to assess 1,085 employees. Participation decline may be attributed to multiple factors, including a reduction in workforce. Flu shots were free this time, and employee participation increased eight-fold. All employees, and their dependents, were eligible to receive a shot at no personal expense if they carried

County medical insurance. That year, the Wellness Action Task was launched with 726 participants.

Like other County services, Partners for Health had to cut its budget in 2009. The County chose not to renew the third-party administrator's contract and instead embedded wellness services into the contracts of the County's two medical benefits providers: Regence and Group Health. This change resulted in a six-figure savings while expanding wellness services into disease management and health coaching.

In the fall of 2009, Wellness Action Task participation increased to 800 people and flu vaccination clinics were combined with the biometric screenings to offer “one stop shopping.” A team of nurses from Group Health Occupational Health Services provided health exams to 1,038 employees and flu vaccines to 1,001. Those shots, along with free H1N1 shots available through the Snohomish Health District, made employees instrumental in keeping Snohomish County a “flu free zone” in 2009.

In October 2009, Jeffrey Harris, MD, MPH, MBA, Director of the Health Promotion Research Center at the University of Washington, delivered “Connecting the Dots: A Prescription for Change, One Person at a Time” at the Transforming Health Care seminar in Lynnwood. Organizers of Partners for Health met with Harris to see how they could improve their program.

Harris and Thom Murray, from American Cancer Society's Workplace Solutions, evaluated the program and offered five recommendations. First, remove monetary barriers, such as co-pays and deductibles, from cancer screenings. Second, allow free access to generic medications for chronic diseases. Third, provide unlimited tobacco cessation services at no cost. Fourth, offer employees free and unlimited access to a dedicated tobacco cessation telephonic quit-line. Fifth, endorse physical activity in the workplace.

Based on these recommendations, Partners for Health focused on creating a culture of movement in the workplace. The new “Move More and Learn More” Wellness Action Task provides incentives for



Stilson, a certified facility dog who works with crime victims in the Prosecutor's office, leads employees from the Human Resources Department on a lunchtime walk. All photos courtesy of Snohomish County.

individual and group fitness efforts. A pedometer-monitored walking program called “10,000 Steps” is a cornerstone of the “Move More” campaign, requiring employees to increase their physical activity week-by-week for 10 weeks. Many group activities, such as yoga, running, biking, and a variety of sports, were organized during the lunch hour.

An additional focus is tobacco cessation. The County is working to expand the services already provided through Regence and Group Health. Policy makers are reviewing proposals to make Snohomish County a Tobacco-Free Workplace. Other recommendations for changes to employee health care benefits are still under consideration.

The fourth annual biometric screenings and flu vaccination clinics are being provided this fall by Group Health. A publicity campaign is underway.

Evaluating the Value of the Program

Snohomish County considers Partners for Health a long-term investment strategy. While return-on-investment data are not yet available, screening results show beneficial changes across several health variables. Three years of data show improvement to cholesterol, triglycerides, and HDL.

At its heart, the wellness program creates an environment that supports healthy living. “I appreciate Partners for Health because it creates a culture of health and wellness in my workplace. When I am tempted to make an unhealthy choice, I am reminded of the support I have through Partners for Health and am more likely to make a healthy choice because of it,” says Sarah Hogan, Infant Toddler Specialist from the Human Services Department. The lunch-and-learn classes allow convenient access to important information. Mary Albert, Judicial Finance and Budget Manager from the Clerk’s Office, says, “Having health- and wellness-related learning opportunities provided by Partners for Health is valuable to me. I appreciate the many choices available and the opportunities to learn about topics I have an interest in, but do not have the time to read up on.” Easy access to health services such as flu vaccinations and annual health screenings are an additional plus. Brad Wick, Systems Administrator Support from Information Services, says, “The Partners for Health program has been a great asset to my health. Even though needles and blood frighten me, the friendly staff and their uplifting attitude make it enjoyable.”

Employees already in great health are inspired

to “do more” through the program. When Partners for Health launched, Gregg Ohlsen, Manager of Court Services and Records in the Clerk’s Office, was not certain how it applied to him. He says, “I am a healthy male in my mid-thirties who works out three times a week.” But, when his co-workers got involved in the wellness program, they challenged him to take his exercise routine to the next level by completing a mini-triathlon. “I thought to myself, ‘I can do this!’ and I joined in with the team. We all encouraged each other to complete the event. It was a fun and challenging team-building activity that helped me build healthier habits.”

Road Maintenance Division employees have taken steps to improve health and reduce on-the-job injury as a result of the wellness program. Roger Wright, a Road Maintenance worker, became interested in weight loss after the first health screenings. He has since lost 110 pounds and stays physically fit to prevent injury. Roger is so passionate about injury prevention that he leads a stretching program at roll call. He says stretching is the reason he is able to complete physically strenuous work like pouring concrete without hurting himself. On his significant weight loss, Roger says “that’s a third of my body!” Mel Reitz, Road Maintenance Operations Manager, says “the administrative staff have been conducting weekly weigh-ins and tracking our progress since late in 2009. This started as a friendly contest for the person who loses the most pounds. One person in the group has shed over 100 pounds since we started!”

Roy Scalf, Road Maintenance Division Director, says he is encouraged by the participation in the wellness program, and the focus on health that he is observing among the staff. “The dedication to a healthier lifestyle and the commitment to staying physically fit, including pre-work stretching, is good for the overall health of our work force. We fully believe that the program is improving the health of our employees while reducing the number of on-the-job injuries we see as a result of the kind of physical work our employees do every day. The health and safety of our employees is extremely important to us on a personal as well as a professional level. We need healthy workers in order to provide the service the public expects from us.” ■



Snohomish County's Road Maintenance Division, in the Arlington shop, stretches before beginning the day's work.

Author

Rebecca Olin, MS, is a Human Resources Analyst for Snohomish County government who specializes in employee benefits and wellness programming. She has a Master's degree in Exercise Science from Western Washington University with a focus in Community Health Education.



Building Healthy Communities

By Barbara Wright

We are all too familiar with the startling statistics from the Centers for Disease Control and Prevention depicting the obesity epidemic in our country. In 2009, 33 states had an obesity rate of 25 percent or higher; only Colorado and the District of Columbia had a rate of less than 20 percent. This complex epidemic has resulted from a combination of factors—including how we have built our communities.

Our cities and transportation systems make it difficult to incorporate physical activity into our daily activities. We have disconnected ourselves from each other and have failed to adequately provide public spaces where we can be physically active, enjoy nature, connect with others, and restore ourselves. Our communities are not always healthy places to live, but there are things we can do about it. We need to act quickly.

Many American cities are car-centric with wide, unpleasant, and noisy highways and streets separating our neighborhoods. Some cities are making great progress in building healthy, happier, and vibrant communities, while others are still struggling with an outdated focus on the automobile as the first choice for transportation.

Four Northwest communities have made great progress in creating healthy places. Seattle, Portland, Olympia, and Port Townsend are positive examples of how communities can be designed to promote health. All are making sustained efforts to provide transportation choices for walking, biking, and transit; creating new parks that introduce nature back into everyday life; and creating recreational opportunities that celebrate urban living.

The recently completed Cal Anderson Park in Seattle's dense Capitol Hill neighborhood is an excellent example of how a park redesign can bring vitality, physical activity, community connections, and happiness to its users. Recognized by *forbes.com* as one of the nation's best parks in 2009, this redeveloped park includes several water features, art, creative design elements, landscaped areas, paths, a plaza, a children's play area, numerous places to sit,

a wading pool, and areas for active sports.

Portland has developed an extensive biking infrastructure, along with programs to support biking. According to the League of American Bicyclists, between 2000 and 2008 Portland gained a 238 percent increase in bicycle commuting, the largest in the United States. In the past 15 years, bicycle use of the four bicycle-friendly downtown bridges has increased 400 percent; bikes now account for about 10 percent of all traffic using those four bridges. Portland is poised to lead the country in rethinking how bicycles integrate into an efficient transportation system.

The City of Olympia creatively addressed the question of public funding for healthy community infrastructure. In 2004, Olympia voters approved a 3 percent tax increase on utilities to fund parks and sidewalks. The tax is estimated to generate about \$2.9 million per year and the city has now purchased almost 50 acres of parkland and made numerous sidewalk improvements.

And walker-friendly Port Townsend, Washington, worked diligently to adopt a transportation plan that supports walking and biking as easy choices for transportation.

Building Community

The four cities have created healthy and vibrant communities through their support of local neighborhood farmers' markets; some of them have communitywide gardening programs. Farmers' markets offer locally grown produce, bring people together, and provide farmers a venue to sell their

Above, a young woman shops at Lake Forest Park's farmers' market in Washington. Photo by Julie Smith. Facing page, Cal Anderson Park in Seattle, Washington, courtesy Seattle Parks and Recreation.

Public Health Accreditation: A Statewide Survey &

By Shannon Dames

Author

Shannon Dames, MPH, RN, was the Community Health Programs Manager for the Deschutes County Health Department, Coordinator of its Beta Test Accreditation, and the developer of the Oregon survey to assess statewide readiness trends.

In May 2010, Deschutes County, Oregon, hosted the nation's first site visit from the Public Health Accreditation Board (PHAB). This represented an important step in the national effort to develop accreditation standards for state, local, territorial, and tribal health departments.

The goal of public health accreditation is to improve and protect the health of the public by advancing the quality and performance of all health departments in the country, so that residents can feel confident that their public health department is providing the highest-quality services possible. However, Oregon continues to be one of the most poorly funded public health areas in the nation, ranked 42nd out of 50 for state funding.

Consistent standards of performance are an important component if a discipline is to communicate the necessity of its role as a direct service provider, community collaborator, and policy development body. Accreditation measures will clarify the core values and functions of public health both internally and externally. PHAB anticipates official accreditation of health departments to begin mid-2011.

Deschutes County was one of the 19 local health departments chosen to beta test the accreditation process in 2009 through 2010, and the first site in the nation to go through a beta accreditation site visit. Deschutes County, in Central Oregon, includes the Mt. Bachelor ski area and considers itself the outdoor recreation capital of the state. Bend is its largest city.

As a local health department going through the beta test for the national accreditation process, we learned a great deal about what it will take for our department to measure up to the standards and, most importantly, the infrastructure investments that are necessary to sustain the preparation efforts. The state health departments in Washington and Wyoming also are beta sites.

Statewide survey

Oregon surveyed all 36 counties using a self-assessment tool created to reflect the proposed

accreditation measures. The goal was to identify areas of similarity among county needs, and to identify factors that contribute to a county's readiness. Results showed a need for improved administrative infrastructure, program and intervention evaluation mechanisms, and planning processes. Readiness scores did not significantly differ by funding allocation, population size, rural vs. urban counties, geography, or ethnicity.

Sixty-four percent of the survey questions were answered with a "yes" response for self-perceived ability to demonstrate completion of the measure area; 25 percent were answered with a "close" to completion response; and 11 percent were answered "no."

The survey found that Oregon counties, despite their vast differences, have similar preparation needs for the national accreditation process. The population variations, geographical differences, and the availability of funding had little effect on self-perceived accreditation readiness.

A Local Perspective

As this narrative is being written, the beta test is still in process. Deschutes County Health Services, along with the other beta test sites, completed the application, self-assessment, and site review. We have received a great deal of attention from other counties across the country, grantors, and public health support agencies that are curious about the process and what it means to them. Questions about how much time it has taken us to complete the steps so far, how we have organized our work to be most efficient, and how reviewers are judging documentation will best be answered at the end of the beta test. We can share experiences on how to organize, prioritize, and communicate tasks to the accreditation preparation team, governing body, and department staff. The following steps outline how Deschutes County Health Services began the preparation for the beta accreditation process leading up to the site review.

Gaining buy-in from governing bodies is an essential first step in the decision to pursue accreditation. The accreditation process is

Local Perspective

comprehensive, involving multiple departments, community partners, and local officials. A resource commitment is needed from all levels to sustain momentum. Staff involvement will demonstrate to the site visit team that the infrastructure is active in the department at all levels. Isolating the accreditation process to a select team will endanger the momentum.

The first functional step was to name a coordinator who is familiar with all of the public health programming, has a voice with County leadership, and can move tasks along over a year-long process. It is important for the coordinator to develop a process that can be picked up by another if they step out of their role. The second step was to plot out the work among the leadership team and other county departments (information technology, personnel, and building services), defining who would be the lead on individual measures. Instead of setting up regular meetings, we assigned specific tasks. The coordinators ensured that each measure had a point person, and selected documents to meet the intention of the overall standard.

Document management turned out to be one of the most important processes. Early on, we failed to name the documents in a consistent fashion, making them difficult to locate, and failed to sort them into measure-specific folders. In the end, we created a folder for each measure, and renamed many of the documents to reflect the selection purpose, but it took far longer doing it later in the process than if we had started that way.

The site review team reviewed our self-assessment and document support for each accreditation measure. The site visitors sent notice to us about additional documents they wanted to see at the site visit. They sent an agenda for interviews with leadership, staff, and community members. The local accreditation coordinator used the agenda to line up meetings throughout the two-day site visit. The first day began with a welcoming session with the leadership team, and the second day ended with an exit interview where both specific suggestions and overall impressions were shared.

During the site visit, only a few hours were spent reviewing documents, as most of this was done before the site visit. Most of the time was spent observing the department (chart security, posting of licenses/certificates to operate, pamphlets for clients, etc.), interviewing key staff to ensure that the infrastructure described in the self assessment was indeed a living part of the department at all levels, and observing whether resources were consistently accessible to staff (training plans, access to policies, contribution to planning efforts). We found it reassuring that the accreditation was more than a paperwork exercise, and that there was an effort to validate work being done that met the intentions of the standards.

Many people have asked, “is it worth it?” This is especially true of the beta test since beta test sites will not be given feedback from PHAB about their accreditation status—this will only happen when they go through the process “for real” since the process may change after the feedback of the beta test. We felt it an honor to participate in the beta test for several reasons. First, we have become intimately familiar with the standards and measures that reflect core public health principles, and have created tangible goals to work toward. Second, we have been able to celebrate the areas that we are exceptional at, and been able to prioritize the opportunities to improve. Third, with all of the work we do to improve resource availability for our programs, accreditation will give us a more concrete standard to communicate to our governing body and to our citizens. Whether our county gains official accreditation or not, we are certainly in a better place having gone through the steps to prepare for it. ■

Underlay, snowboarding down Mt. Bachelor, courtesy Brian Clifford. Below, the accreditation team poses during the site visit, courtesy Deschutes County Health Department.



Using County Health Rankings to Assess Population Health

By Jeri L. Bigbee, Sandra Evans, Judith Nagel, Diane L. Kenski

The recently released 2010 County Health Rankings represent a useful tool for public health professionals in addressing local population health issues. These rankings, which were developed by researchers at the University of Wisconsin Population Health Institute in collaboration with the Robert Wood Johnson Foundation, are based on a model of population health improvement in which measures of health outcomes are used to describe the current health status of most counties in the US. Each county receives two

primary ranks—one for health outcomes and one for health factors, with highest ranks judged as “healthiest.”

The outcome rankings are based on an equal weighting of mortality and morbidity measures. The mortality rank is based on a measure of premature death (the years of potential life lost prior to age 75). The morbidity rank is based on measures of self-reported fair or poor health, poor physical health days,

poor mental health days, and the percent of births with low birth weight.

The summary health factors rankings are based on weighted scores of four types of factors: behavioral, clinical, social and economic, and environmental. Health behavior indicators measure smoking, diet and exercise, alcohol use, and sexual behavior. Clinical care indicators measure access to care and quality of care, but does not include nursing workforce data. Social and economic factors measure education, employment, income, family and social support, and community safety. The physical environment includes measures of environmental quality and the built environment.

A recently completed pilot study in Idaho

illustrates how the county health rankings can be used in community-based health planning and research. This study analyzed existing data to address two research questions:

1. What is the relationship between county health ranking and population density in Idaho?
2. What is the relationship between county health ranking and nurse-to-population ratios in Idaho?

These research questions are relevant in light of the health disparities and chronic nursing shortages that affect rural communities. Neither population density nor provider-to-population ratios were consistently related to population health indices in previous studies that used state or national level data. Using counties as the unit of analysis provides a much finer assessment of local community dynamics and is particularly important in reflecting rural and frontier communities whose unique dynamics are often lost when only state-level data are used.

Our study examined population density and nurse-to-population data in relation to population health indices using counties as the unit of analysis in Idaho. County nurse-to-population ratios for 2010 were computed from the current number of registered nurses and advanced practice nurses (provided by the Idaho Board of Nursing) residing in each county in the state, along with the 2008 Census estimates for each county. Nine of the counties were urban, 16 were rural, and 17 were frontier. The sample included a total of 121,161 RNs and 792 advanced practice nurses (APNs).

Our Findings

Our results indicated that population density was not significantly related to either overall county health outcome ranking or health factor ranking, which was consistent with some previous research, but contradicts other studies that found lower levels of health among rural residents (see this issue’s online bibliography). This may be explained by the wide diversity of rural communities, particularly in a state like Idaho in which counties vary widely in income levels and population characteristics. For example, Blaine County, a frontier county in which Sun Valley is located, ranked highly. Population density was

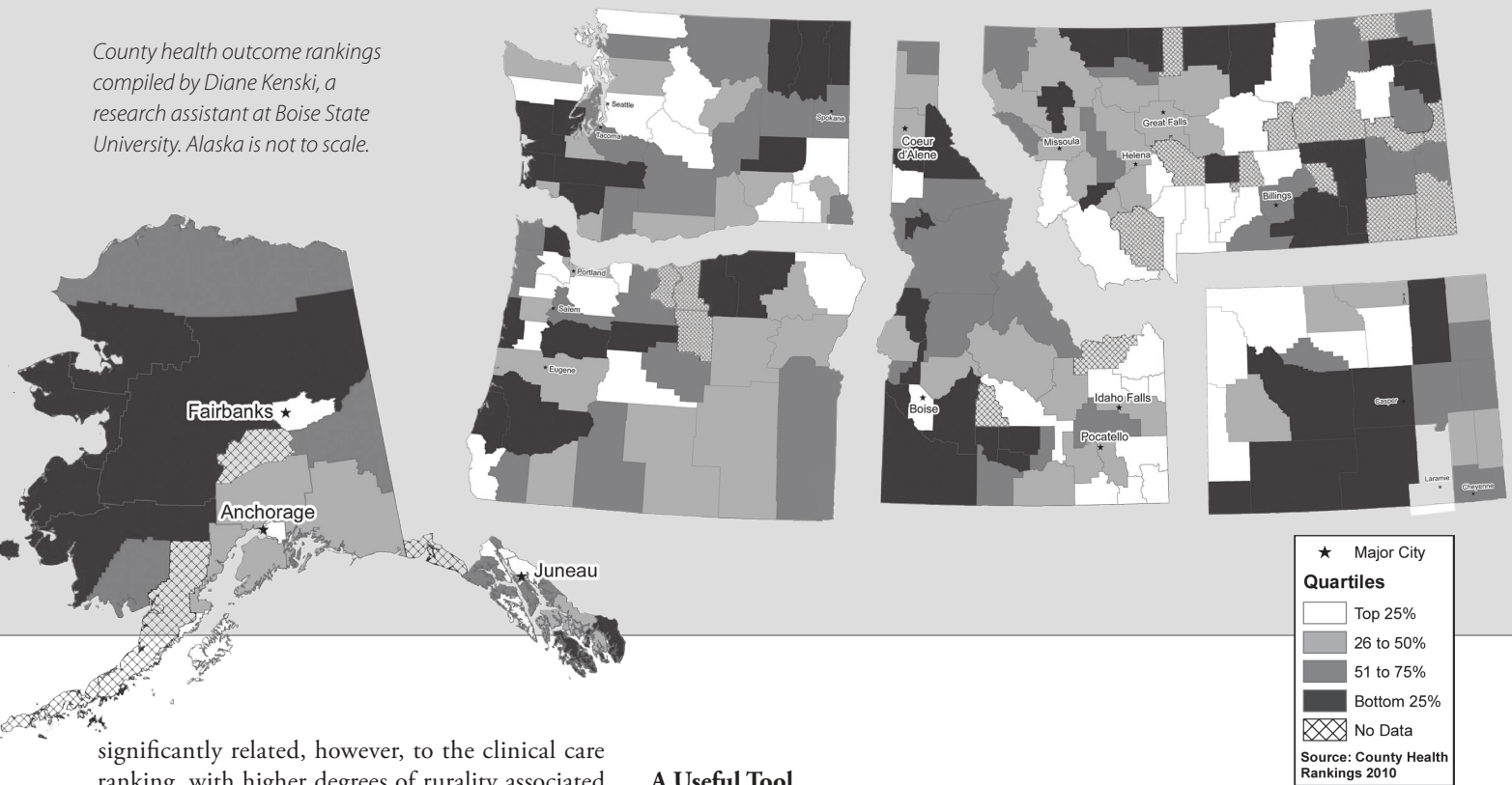


Above, nursing students Jason Oakes and Kathy Baker visit a retirement home. Photo courtesy Boise State University.

County Health Rankings in Our Region

The project assesses the overall health of most counties in all 50 states and will be updated in 2011 and 2012. The rankings compare the counties in each state, but don't make cross-state comparisons. Still, they could stimulate local action toward policies, programs, and other decisions aimed at improving health.

County health outcome rankings compiled by Diane Kenski, a research assistant at Boise State University. Alaska is not to scale.



significantly related, however, to the clinical care ranking, with higher degrees of rurality associated with poorer clinical care rankings, which was not surprising given the limited health care resources in rural and frontier communities.

Similarly, when we looked at the county-based nursing data, the RN-to-population ratio was not significantly related to overall county health outcome or factor rankings. However, higher nurse-to-population ratios were associated with higher county rankings for clinical care. This finding again was not surprising since the clinical care ranking category reflects health care resources in which nurses are major providers of care. The APN-to-population ratio was not significantly related to the county health outcomes ranking, but correlated with the overall county health factors ranking and the social economic factors ranking. This indicated that higher APN-to-population ratios were associated with healthier county rankings for health factors overall and social and economic factors in particular. This approach to workforce evaluation in relation to county health dynamics could be used with other health and human services disciplines.

A Useful Tool

This pilot study showed how useful the recently released county health rankings can be in addressing public health and health workforce issues at the local level. The correlational findings must be interpreted cautiously, however, since the relationships between population density, provider-to-population ratios, and population health outcomes are complex. The use of county-level data, however, provides advantages, particularly when studying rural and frontier states such as Idaho. Further multivariate research with multiple states could examine population density and provider-to-population ratios in relation to population health over time, while controlling for other influencing variables.

This analysis of underlying factors would be highly useful in both public health promotion and workforce planning. Overall, this study demonstrated the value of the County Health Rankings as a useful data source for public health research and community-based assessment, planning, and evaluation. ■

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Parent-Child Tooth Brushing

By Colleen E. Huebner



Among US children, the prevalence of tooth decay is increasing. National studies show 23 percent of children ages 2 to 4 had tooth decay in 1999-2000 compared with 18 percent in 1988-1994; the Healthy People 2010 target is 11 percent. Tooth decay is more common in poor children, though the disease experience can be equally severe for poor and non-poor children alike.

The process that leads to cavities begins early. Tooth decay is the result of an infection (“dental caries”) from two common bacterial pathogens *Streptococcus mutans* and *Lactobacillus*. Tooth decay can be largely prevented through regular use of fluoridated toothpaste. As of 2008, professional recommendations of the American Academy of Pediatric Dentistry—for all children—are to begin brushing with the eruption of the first tooth, brush twice per day, and use a small amount of fluoride toothpaste. Relatively few parents of young children—perhaps only half—brush their children’s teeth, with or without toothpaste, twice a day. This article describes the use of community-based participatory research methods to promote this important health behavior.

Parents and community-based health professionals were included in each step of the study design and data collection as expert informants to “help researchers create information for parents of young children about how to take good care of their child’s teeth.” A steering committee reviewed, revised, and approved study protocols. Its members—all from the community—included five professionals in early childhood health or education and two low-income mothers with young children. Parent members were paid a stipend.

The study began with one-to-one interviews with 44 parents of infants and young children who were enrolled in three early childhood education programs that serve low-income families in rural Western Washington. The interviews were conducted by three paid community residents trained by the study investigators.

Major themes from the interviews were identified first by the study investigators and then refined by 14 parents in two focus groups. They were asked

to confirm and elaborate on the interview data and tell us what would help them, and parents like them, develop and maintain a habit of twice a day tooth brushing. Their recommendations guided the design and delivery of our recently completed health promotion program.

Frequency of Parent-Child Tooth Brushing

Interview participants were asked if twice daily brushing was a “very realistic recommendation for parents.” Forty of 44 parents said it was realistic, yet only 22 said they achieved this goal. Of the total sample, 4 had not yet begun tooth brushing, 1 did it less than once a day, 15 reported brushing once a day, and slightly more than half (24 of 44) reported brushing two or more times a day. Among parents who reported brushing less than twice a day, morning brushing was most often skipped in the rush to get to work or school. Some parents said it was easier to achieve twice-a-day brushing on the weekends.

Child’s age was not related to brushing frequency. Fewer than half of the parents said anyone had ever shown them how to brush a young child’s teeth. For most, this was a parenting skill they worked out on their own, and several recalled fearing that they would hurt their baby. Most parents went into the bathroom with the child and supervised the child’s tooth brushing, sometimes brushing their own teeth at the same time. One parent described tooth brushing this way: “I just ... take him to the bathroom. I give him the toothbrush and he loves to brush his teeth forever.” Seven of the 40 parents said their child brushed on his or her own, without supervision.

Barriers and Support

Some parents talked about social or familial norms that had a positive influence on brushing. Few parents said brushing a child’s teeth twice a day was easy. Parents who brushed their children’s teeth twice a day were more likely to describe using specific skills, such as making it fun, or personal reminders. They were confident about this task and established

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it as a routine. Parents who brushed their children's teeth less than twice daily were more likely to hold negative or false beliefs about the benefits of twice-a-day brushing, report little social support for the behavior, and offer fewer ideas to overcome barriers.

What Would Help?

Parents in the focus groups reviewed the findings from the interviews and made four types of suggestions for oral health promotion efforts. First, they requested accurate, consistent information about oral health development and how best to care for infants' and young children's teeth. Their questions and frustrations were concrete, such as: "What hardness or softness of tooth brush is best? And, if soft is best, then why do stores sell other types at all?" Second, they asked how to make brushing fun for their children. Third, they discussed tips to build a routine. Finally, several said buying novel toothbrushes to maintain their child's interest was expensive.

When asked how best to get information about children's oral health to other parents, focus group participants suggested a series of educational sessions held in early evening with a light meal and childcare. The opportunity to combine learning with socialization was especially attractive because many are single parents or otherwise isolated from peers.

If You Build It, They Will Come

Following the advice of the interview and focus group participants, we created a four-part parent education program, Taking Care of Baby Teeth. The sessions were held weekly, in the evening, for four weeks at a local preschool and were led by a local, trained parent educator. On-site child care was provided. The 90-minute sessions included 30 minutes for refreshments and socialization (parents, children, and staff together), a 30-minute educational program for parents, and 30 minutes for facilitated parent-to-parent discussion of "what works."

A community member was hired and trained for data collection. We collected pre- and post-program questionnaires about home brushing frequency, parents' knowledge of children's oral health needs, and a measure of the importance and intention to brush child's teeth, parental confidence about child tooth brushing, perceived seriousness of tooth decay in children, and if they believe decay occurs by chance.

Although data analyses are just beginning, we have some evidence of success. Anecdotally, parents report the program has helped them learn more

about the importance of baby teeth and supported their efforts to brush twice a day.

The program is popular. A total of 76 parents have attended. About half are parents of children under age 2. The groups average about eight parents each, which allows parents to build rapport and share their experiences. An unanticipated result is that a number of fathers and couples have attended. In response to interest expressed by a program that helps young parents complete their high-school equivalency diploma, we added several day sessions. Sixty percent of participants are first-time parents. Reaching new parents with their first child increases the opportunity to benefit future siblings.

The study used the principles of community-based participatory research (CBPR) to understand the barriers and supports for parent-child tooth brushing and create a health promotion program based on these findings. Community parents were members of the research team and involved in the design of data collection tools (the interview), data collection, and its interpretation. Parent interviews identified multiple determinants of parent-child tooth brushing and helped us understand this deceptively simple preventive health behavior. These results were then used to design a preventive intervention program with parents, for parents.

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CBPR methods produce information that reflects local needs and resources. If the Taking Care of Baby Teeth program proves to be successful, it could be introduced in new communities. Dissemination should include significant community engagement and a commitment to adapting the program to each new community. ■

Young tooth brushers get a chance to practice with Ollie, a dog with big teeth. Photo by Christina Crea.

Oregon Laws Support Community-Based Prevention

By Shannon O'Fallon

Oregon's Obesity Task Force recommended funding physical education in schools and infusing health as a priority into land use planning. Underlay on facing page courtesy the USDA.

Author

Shannon O'Fallon, JD, is a Senior Assistant Attorney General with the Oregon Department of Justice and she provides legal advice to the state Public Health Division.

Law can be an important tool in protecting and improving the public's health. Some obvious examples are seatbelt requirements, helmet laws, prohibitions on indoor smoking in public places and places of employment, and drinking water standards.

The new federal health care law, the Patient Protection and Affordable Care Act (PPACA or "Affordable Care Act") emphasizes the need for efforts to improve the health of the United States through health promotion and prevention strategies. The to-be-established National Prevention, Health Promotion and Public Health Council and the Advisory Group on Prevention, Health Promotion, and Integrative and Public Health have roles in developing a national prevention, health promotion, and public health strategy. The advisory group and council also have roles in establishing measurable actions and timelines for carrying out the strategy. Such a strategy is intended, in part, to encourage Americans to make lifestyle changes that will lead to improved health. The Affordable Care Act provides funding for these efforts, but it is likely that such efforts will require changes in federal or state laws.

Oregon has, over the years, sought to address community-based prevention efforts through law changes. The following are just a few recent examples, some of which have been successful and some which have not.

Oral Health

Since at least 1999, the public health community has sought to require fluoridation in community water systems. Fierce opposition from environmental organizations and others has thwarted those efforts ever since. Opponents of water fluoridation cite studies on the toxicity of fluoride, and increased risks of skeletal fluorosis, a condition where accumulated fluoride makes bones weak and brittle, and dental fluorosis, a condition where too much fluoride causes mottling of the teeth. In addition, opponents cite studies that fluoridation in the water has an adverse

impact on salmon, a hot-button issue in Oregon. Some communities in Oregon fluoridate their water and the Oregon Supreme Court found in 1956 that it was a valid exercise of a city's police powers to fluoridate its water. However, a state law requiring all community water systems to be fluoridated seems to be out of reach.

Obesity Prevention

More than half the adults in Oregon are overweight or obese, as are more than one in five Oregon children. To begin to address this issue, the 2007 Oregon Legislature created the Obesity Task Force to study obesity prevention and make recommendations to reduce obesity rates. Recommendations included funding physical education in schools, infusing health as a priority into land use planning (built environment), improving nutrition in schools, supporting farm-to-school programs to increase the use of locally grown foods in schools, and labeling menus in restaurants. Laws have been passed or introduced to make these recommendations a reality.

Menu labeling is an important consumer tool to help people make informed choices when ordering food. Oregon passed a law in 2009 to require chain restaurants with 15 or more locations to make nutritional information, including calories, fats, and sodium, available to customers by January 1, 2010. Chain restaurants must disclose calorie information on menus by January 1, 2011. The Affordable Care Act requires menu labeling for restaurant chains with more than 20 locations; Oregon and other states are considering options, since they are preempted from imposing nutritional requirements that are different from the federal law for restaurant chains that are covered by the federal law.

In 2009, a bill was introduced to reimburse school districts that serve local Oregon food products as part of the USDA school lunch and breakfast program. The bill also directed the Oregon Department of Education to provide grants for food-based or

This article does not reflect the views of the Oregon Department of Justice or the Oregon Public Health Division.



garden-based educational activities. The bill did not pass due to budget issues, but it may see a resurgence in future sessions, as it had no opposition. This effort may be made easier as community transformation grants authorized by the Affordable Care Act can be awarded for activities that create healthier food options for students.

During its 2007 session, the Oregon Legislature passed House Bill 3141 that, beginning in 2017, requires K-8 students to participate in physical education for the entire school year, with K-5 students required to participate in 150 minutes of physical activity each week and students in grades 6-8 required to participate in 225 minutes of physical activity each week. Additionally, the Oregon Department of Education (ODE) was required to award grants to districts to meet the PE participation requirements. A 2009 bill would have appropriated money from the state general fund to ODE to award grants to school districts and public charter schools for physical education. While this measure did not pass, the legislature included \$500,000 in another bill to support these grants.

Tobacco Prevention

Tobacco prevention was a priority for the public health community during the 2009 legislative session. Three bills passed: one that requires landlords to disclose smoking policies for their rental properties, one that limits tobacco vending machines except for premises that are off-limits to minors, and one that changed the calculation for taxes on moist snuff and included an escalator clause to increase the tax rate in 2019. Other tobacco prevention laws failed to pass,

including a sample ban on non-cigarette tobacco products such as moist snuff; a state tax increase on cigarette products by 60 cents a pack with dedicated funding to the Oregon Health Authority for health care, public health, and health promotion; a measure that would have removed the preemption in the current tobacco tax statute in order to allow other state, county, or municipal taxes to be levied on cigarettes and other tobacco products; and closing the loophole in Oregon's Indoor Clean Air Act for hookah lounges.

The examples above demonstrate the need for law changes to effectively implement community health improvements in Oregon. However, given the current budget crisis in Oregon, it is uncertain whether state or local public health efforts to address community-based prevention efforts that require additional funding from the state legislature will be pursued or successful.

If community-based prevention efforts require a government agency to undertake a particular task, those efforts must be enshrined in law, because a government agency is a creature of the law and can only do what the Legislature has given it the authority to do. The ability of a government agency to enforce standards requires passage of a law.

Government agencies, public health organizations, and others may educate and encourage individuals and entities to adopt behaviors that promote public health, but without the force of law it is difficult to envision the kinds of changes that will be necessary to alter community norms, change behavior, and reverse trends such as the obesity epidemic. Consequently, the law remains an essential tool to help accomplish these public health goals. ■

Cavity Prevention in Rural Alaska

By Alice Nunes

In many parts of Alaska, patients routinely hop on a snowmobile or load onto a four-seat propeller plane to seek emergency dental or medical care.

Roughly three quarters of the state is inaccessible by automobile and dental care is provided, in many cases, by small dental teams sent to remote villages

by the Indian Health Service. The weeks away from home eating only energy bars, using a 5-gallon bucket for a toilet, and traveling in harsh weather conditions wears on the idealism of even the hardest dentist. High turnover among dental professionals adds to an underlying distrust rural Alaskans have for outsiders.

The rate of dental decay in Native Alaskan children is 2.5 times the national average. One solution is

to train tribal members to provide some of the dental care in remote villages. Alaskan tribal health organizations have adopted a model for using midlevel practitioners; similar to one used in 42 other nations including New Zealand, the United Kingdom, and Canada.

Since 2006, Dental Health Aid Therapists (DHATs) have been trained through a collaboration of the Alaska Native Tribal Health Consortium and the University of Washington School of Medicine's Physician's Assistant Program at facilities in Anchorage and Bethel, Alaska.

DHATs are Alaskans from remote communities trained for two years in operative and preventive dentistry, focusing mostly on younger patients. Some DHATs can offer mid-level dental care such as fillings, crowns, and extractions. Others serve as information sources for their communities, providing oral hygiene instruction and fluoride treatments. They also serve as liaisons to the larger regional dental clinics, scheduling and coordinating field trips by traveling dentists and hygienists.

The DHAT model mirrors the Community Health Aide Program, which has served Alaska for more than 60 years. CHAPs serve remote locations, assisting with emergencies and coordinating basic medical care for their village. This idea may seem foreign to health care providers in urban areas where dental clinics are close at hand. In Alaska, DHATs and CHAPs are allowed to practice by the independent and autonomous tribal governments. Other states are beginning to push for similar mid-level programs. There, the debate focuses on questions such as jurisdiction and supervision. In the remote areas of bush Alaska, DHATs and CHAPs are more accepted, as they assure that villagers get the health care they need when they need it

When I was a dental assistant in Southeast Alaska, I worked closely with several DHATs, including Brian James, a key player in the new Caries Risk Model of treating tooth decay. Patients are assessed according to their amount of existing decay, fillings, dietary habits, and oral hygiene. Those deemed having a high cavity risk are placed on a rigorous prevention program that includes antibiotic mouthwashes, temporary fluoride-releasing fillings, and periodic iodine swabbings. As a high-level DHAT, James can remove decay in large segments of the mouth, provide oral hygiene instruction, and make permanent restorations once oral health is improved.

Their deep knowledge of regional culture and customs allows DHATs to tailor care for better patient compliance. For example, in the Yup'ik culture of Southwest Alaska, it is taboo to chew excessively when pregnant. A program to prevent early childhood cavities failed because it used xylitol chewing gum as the primary means to decrease cavity-causing bacteria in the mother's mouth.

DHATs are active participants in the local village, tribe, or clan and serve as role models. A 2008 pilot study by Dr. Kenneth Bolin in the *Journal of the American Dental Association* found no significant difference in the quality of restorations placed by DHATs and dentists. Programs such as DHAT, combined with dedicated oral health care professionals and education, provide hope of improving oral health in remote Alaskan villages. ■



Alice Nunes as a dental assistant in Southeast Alaska.

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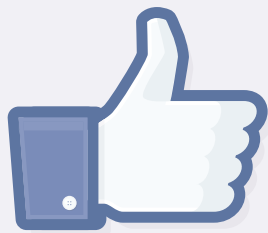
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