Chronic Disease Notes & Reports

Special Focus: Eliminating Health Disparities

Public Health Puzzle: Social Determinants of Health

Eliminating health disparities—one of the primary goals of *Healthy People 2010*, the nation's prevention agenda—is an immense challenge to all of us in public health. Despite decades of data demonstrating the existence of health disparities and an outpouring of recent research, much remains to be learned about the causes of health disparities and how to prevent them.

Researchers are examining such topics as socioeconomic status, racial and ethnic differences in access to health care and other resources, the effects of racism and segregation, and living and occupational conditions. What researchers do know about causes indicates that broader issues of social inequality must be addressed before the puzzle of health disparities can be solved.

The problem is so vast that a recent Institute of Medicine (IOM) report focused on only one aspect: disparities in medical treatment. The report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care,* emphasized the need for immediate practical action and more study.[1]

"Disparities in the health care delivered to racial and ethnic minorities are real and are associated with worse outcomes in many cases, which is unacceptable," stated Alan Nelson, MD, IOM committee chair and former president of the American Medical Association, when announcing the report's release. "The real challenge lies not in debating whether disparities exist, because the evidence is overwhelming, but in developing and implementing strategies to reduce and eliminate them."

Why Should We Study Socioeconomic Status?

CDC researchers are among those seeking a better understanding of how a person's health is affected by socioeconomic status (SES), which includes income, education, occupation, and neighborhood and community characteristics. Researchers

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This issue of cdnr *is the first part of a 2-part series on eliminating health disparities. In the next issue, we look at a variety of programs that focus on health disparities among underserved populations.*

Commentary

Identifying the Causes of Health Disparities

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Health disparities are surprisingly persistent despite the last century's advances in medicine, sanitation, access to care, and standards of living. Unfortunately, not all people in our country share equally in the benefits of these advances. Members of some racial and ethnic groups are more likely than whites to die prematurely of breast and cervical cancer, cardiovascular disease, diabetes, and HIV/AIDS. Their infants are more likely to be born prematurely and to die before their first birthdays. Such inequalities are clearly unacceptable. We must work together to eliminate health disparities, as *Healthy People 2010* affirms.

Public Health Puzzle: Social Determinants of Health — Economic Pressures Exact a Toll on Minority Populations — Racism and Discrimination — Quality of Health Care Can Cause Problems — Resilience and Responses to Stress Affect Health

But identifying the causes of health disparities has proven difficult. Poverty and lack of education are contributing factors. Differences in access to care also explain some of the disparities in health outcomes. Racial differences in infant mortality rates, for instance, correspond only partially to differences in socioeconomic status. For example, black infants continue to have lower birth weight and higher mortality rates than Hispanic infants, despite having higher socioeconomic status.

Prevention research is needed to help us understand the root causes of risks such as poor nutrition, lack of physical activity, and smoking. Until we learn more about the social causes of disease, changing them will be difficult.

We do know that marginalized communities often lack key resources. They are underserved and have little voice in the political process. Their numbers may be small or their communities fragmented and isolated, as with American Indians and Alaska Natives. For these reasons, we must better define the groups that are affected by poor health outcomes. Diversity within groups is another compelling concern that demands further study. Conversely, we must avoid oversimplifying the problems of minority and ethnic groups, for health disparities occur in very specific and complicated contexts.

Surveillance systems, long designed to describe the health status of the general population, should to be tailored to address health disparities. Data that can distinguish one community's problems from another's may be scarce or hard to interpret. The health status of migrant workers, for instance, has been hard to describe because mobility, language barriers, and disenfranchisement contribute to the invisibility of these populations. A pilot survey being conducted by CDC's REACH 2010 program provides a model for local surveillance and will eventually show us what marginalized communities have in common, how they differ, and how to gather community-specific data. Hopefully, we will also learn how health improves when communities are empowered to participate.

Inequality remains an inescapable factor in the care that minority populations receive. Until members of racial and ethnic minority groups can expect to be treated in an equitable manner by health professionals, lack of trust will contribute to the lack of access to health care. Cultural differences and language barriers should not influence the quality of care one receives. Training health professionals in cultural sensitivity and recruiting members of racial and ethnic minority groups into the health professions have had some success, albeit limited. Such efforts must continue. Only with sustained effort will the campaign to abolish disparities in health outcomes succeed.

who study the effects of SES on health have much to contribute to the discussion of health disparities.

SES is central to eliminating health disparities because it is closely tied to health and longevity. At all income levels, people with higher SES have better health than those at the level below them. SES is also a strong force behind differences in health among racial and ethnic groups.

"There is no one reason on which to blame the health gaps we see between different levels of socioeconomic status," said Nancy Adler, PhD, a health psychologist and director of the University of California San Francisco Center for Social and Behavioral Science.

Because the problem has multiple causes, several disciplines are involved, including neurobiology, psychology, sociology, economics, and epidemiology. The link between SES and health remains an important research area in social and behavioral sciences and epidemiology, Dr. Adler said, because health gaps are widening between the "haves" and the "have-nots" in the United States. Such social inequalities produce ill health among the have-nots, social epidemiologist Richard Wilkinson argues in *Unhealthy Societies: The Afflictions of Inequality* (Routledge, 1996). People die younger in societies with greater inequalities in income. For example, the United States has a lower life expectancy than almost every other rich country, despite its wealth. According to a 1998 University of Michigan study, U.S. states and metropolitan areas with greater income inequalities report

higher rates of cardiovascular disease and other diseases among their residents.[2]

Economic Pressures Exact a Toll on Minority Populations

African Americans, Hispanics, Native Americans, and Asian populations such as Vietnamese and Laotians are more likely than other groups to be poor. Poverty affects health by limiting access to needed resources. Other elements of SES, including education, residence, and occupation, also affect people's quality of life, including their health.

- **Educational opportunity.** Because the quality of schools is partially determined by community resources, people in poor communities often get poor-quality education. As a result, they have fewer opportunities for good jobs and incomes. Students in poorer schools may also suffer from nutritional deficits and family pressures. In addition, they face the effects of lowered expectations: no one is surprised by the lower test scores and higher dropout rates at such schools. Women with less education often lack important information about reproductive health. "Our qualitative research indicated that women just don't know basic things about their bodies and what happens normally or abnormally during pregnancy," said CDC Epidemiologist Cynthia D. Ferré, MA.

- **Residential segregation**. "People don't live randomly in neighborhoods," observed Nancy Krieger, PhD, Associate Professor of Health and Social Behavior at the Harvard School of Public Health. "They are incredibly economically segregated." This means that poor people live in resource-poor communities with limited health care facilities. They experience transportation problems, high crime rates, a pervasive sense of insecurity, and less control over their environments, for example, to control pests or make needed repairs.

  Income segregation is further compounded by racial segregation, which is one reason that black poverty is different from white poverty. Blacks and Hispanics are also more likely than poor white families to live in areas of concentrated poverty. Research has shown that living in neighborhoods where some residents have higher incomes and more education is healthier. Housing segregation also limits people's access to public services, reduces their purchasing power, and makes it difficult for them to find better jobs. Thus, residential inequalities make it difficult for many members of racial minorities to improve their living conditions.

  "What puts blacks at risk is not just poverty but their race," noted Robert G. Robinson, DrPH, Associate Director for Program Development for CDC's Office on Smoking and Health. "Disparities go beyond SES.

Indeed, interventions based solely on SES indicators will be limited in their effectiveness. To plan and develop interventions that will truly help the community, public health professionals must capture the contextual reality of racial and ethnic communities. By understanding race and ethnicity in terms of community, we can grapple with their complexity and take note of the differences between poor communities. It is a holistic approach that does not exclude poor people but rather looks at them within the communities where they live."

- **Occupational opportunities.** Most jobs that pay well require reliable transportation or higher education or are located in outlying or suburban areas. Economic segregation keeps poor families in poor areas, where escaping from low-paying service jobs (i.e., the "minimum wage ghetto") is difficult. The U.S. minimum wage is no longer a living wage, according to advocates for the poor, who argue that full-time workers should be able to support their families without falling into poverty. Even families living above the official poverty line often cannot afford basic necessities, including health care. A June 2002 Kaiser Family Foundation poll, for example, found that families earning less than $25,000 a year are likely to have problems with health care costs.

  Many workers, not only those in low-income jobs, struggle daily to pay for resources such as child

care. Having to work more than one job, lacking health benefits, having little control over one's schedule or pace of work, and being unable to take time off when needed can cause chronic stress and damage self-esteem.

Low SES and health problems are related and may have a cumulative effect. The rate of diabetes among African Americans is 70% higher than for whites, and the rate of low-birth-weight infants is more than double. Illness and death from asthma are particularly high among poor, African American inner-city residents. Although asthma is only slightly more prevalent among minority children than among whites, it accounts for three times the number of deaths.

The financial burden of these illnesses adds to the economic strain on families.

For African Americans, such economic hardships are compounded by the inherited disadvantage of institutionalized racism, according to many researchers. For example, according to University of Michigan sociologists David R. Williams, PhD, MPH, and Chiquita Collins, PhD, income differences exist between blacks and whites even when they have similar educational levels. In addition, blacks often pay more for housing, food, insurance, and other services than whites.[3]

Racism and Discrimination

As noted by Dr. Robinson, researchers looking for causes of health disparities must consider how social conditions affect a person's life.

OMB Categories Set Standards for Racial and Ethnic Groups

In 1997, the Office of Management and Budget (OMB) released new minimum categories for collecting federal data according to racial/ethnic group. Additional categories are permitted based on local or state needs as long as they can be aggregated to the standard categories. All federal agencies should adopt these standards no later than January 1, 2003, for use in household surveys, administrative forms and records, and other data collections. Respondents can be offered the option of choosing more than one category of race or ethnicity.

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent (e.g., Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, Vietnam).

Black or African American. A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "black or African American."

Hispanic or Latino. A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term "Spanish origin" can be used in addition to "Hispanic or Latino."

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawai'i, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Source: Office of Management and Budget. Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. Federal Register 1997;52(210). Available at http://www.whitehouse.gov/omb/fedreg/ombdir15.html.

As a March 2000 article in the *Boston Review* observed, "social conditions—such as access to basic education, levels of material deprivation, a healthy workplace environment, and equality of political participation—help to determine the health of societies."[4]

According to the article, "Health is produced not merely by having access to medical prevention and treatment but also, to a measurably greater extent, by the cumulative experience of social conditions over the course of one's life."

Although lack of adequate insurance and local health care providers and facilities contributes to the poor health of poor people, disparities disproportionately affect racial and ethnic minorities despite their income or insurance status. Thus, health disparities are unlikely to be eliminated until researchers develop a better understanding of a topic many people would rather avoid—racism.

"I have found that people don't want to work on issues of racism," said Ms. Ferré. "It's a topic that makes people uneasy."

For many racial and ethnic minorities, negative stereotypes and low expectations are a constant reminder that their efforts are devalued and that they are regarded not as individuals but as representatives of a marginalized group. Racism may limit minorities' access to political participation and the resources available to them. Parents worry about how racism will affect their children.

"I believe we live in a racist society, but it's covert," said CDC Public Health Analyst Angel Roca. As a Latino high school student, Mr. Roca was not expected to apply for college admission. When he was a student at Syracuse University, his appearance could cause a hush to fall over the room.

"Many white people in the United States are in denial about the continued existence and impacts of racism in this country," said CDC Social Epidemiologist Camara P. Jones, MD, MPH, PhD. "It is therefore important for us to develop measures of racism that will allow us to communicate its detrimental effects on the health and well-being of the nation." CDC's Measures of Racism Working Group is conducting a review of currently available scientific measures as a way to begin work on the topic. The CDC group, headed by Dr. Jones, is trying to find out how racism is associated with health and what aspects of racism can be targeted in an intervention. The group has developed a module of six survey questions that is being tested in California, Delaware, the District of Columbia, Florida, New Hampshire, New Mexico, and North Carolina as part of the 2002 Behavioral Risk Factor Surveillance System.

"We want to learn whether people report differential treatment based on their race," Dr. Jones said. "If they do, we want to learn how this relates to their health behaviors, their use of health services, and their chronic disease health outcomes." The Measures of Racism Working Group is also turning its attention to conceptualizing and measuring institutionalized racism. "Indeed, the link between SES and race in this country may be due to institutionalized racism— contemporary structural factors perpetuating historical injustices," said Dr. Jones.

Quality of Health Care Can Cause Problems

Although people often assume that low SES is the only factor contributing to poor health outcomes, research has found that higher SES does not protect African Americans and other minorities. One surprising example of this came from a 1992 CDC study reported in the *New England Journal of Medicine* that found that even college-educated black women were more likely than college-educated white women to have infants born with low birth weight or who died within the first year of life.

To try to identify the reasons for this racial disparity, CDC commissioned a study called the Harlem Birth Right Project to explore factors such as economics, environmental issues, social conditions, and individual and community assets among a sample of African American women living in Central Harlem. The study findings support the 2002 IOM report, which asserted that individual providers exhibit bias in their dealings with patients. In *Stress and Resilience: The Social Context of Reproduction in Central Harlem,* the 2001 book on the Harlem project, authors Leith Mullings and Alaka Wali found that black women experienced discrimination by health care professionals. For example, they reported that one "non-black obstetrician told the ethnographer that she teaches residents that even if a patient states that she misses her appointments because of child care or work difficulties, she is still irresponsible."[5]

Such attitudes place patients in conflict with their health care providers, creating additional stress. And if patients do not have trusting relationships with their providers, many will forego regular medical visits, including preventive care.

"Health care can alienate African American women when it fails to treat known risks and illness; provides inadequate explanations; has long waits to see the provider while the visit lasts only moments; makes no inquiry into social circumstances; makes demeaning statements and assumptions; and assumes that women are irresponsible," said Ms. Ferré.

Medical professionals should be trained to understand social causes in patients' lives so they can improve the quality of care they offer, according to Loretta Jones, MA, a Los Angeles community activist who heads Healthy African American Families, a community-based health organization in Los Angeles.

Resilience and Responses to Stress Affect Health

Another way that racism affects health is by causing chronic stress among its victims. Researchers have found that people who experience discrimination are far more likely than others to develop high blood pressure and other stress-induced health effects. Experiences of discrimination are also associated with psychologic symptoms such as anxiety, depression, and suicidal tendencies, according to a 2001 study of gay and bisexual Latino men reported in the *American Journal of Public Health*.[6]

Stress is being scrutinized as a key factor in the way social determinants of health work. Researchers say that

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the biological effects of repeated stress affect immunity, health, and life expectancy. Researchers increasingly believe that such factors are central to causing health disparities. But they emphasize that people can develop healthy responses to stress. More data are needed about how such responses (called resilience) protect people from the ill effects of stress. "We know relatively little about protective factors," said Ms. Ferré.

For example, women's roles in what researchers call the "kinwork" of family and friends illustrate the balance of stress and resilience. Although social support is a source of informational, emotional, and material help for women, these networks may become strained, especially among low-income families during economic downturns. In addition, African American women play a central role in recruiting and maintaining support networks within the family and community. This pivotal role for the woman within the kinwork process may be at once supportive yet stressful because of disagreements, lack of resources, and the expectations of others in the network.[5, 7]

Qualitative Research Needed

Simply counting deaths, cases of disease, and other events will not give a complete picture of health disparities. To fully understand how stress, racism, and health are related, researchers must talk with people in the community to get their personal stories and opinions. This type of research goes beyond traditional quantitative studies. Such

descriptions provide a context to help researchers understand how social interactions create health outcomes.

"We [African Americans] are a different culture," stated Ms. Loretta Jones, whose organization acts as cultural broker for the Los Angeles community it represents, helping residents learn to communicate more effectively with health care providers and understand research being conducted in the community. "The community needs to tell the researchers what to study, and not the other way around."

Qualitative research was used for the Harlem Birth Right Project, and one of the findings was that community members felt blamed by research that focused on individual behaviors. The personal stories gathered for *Stress and Resilience* describe the experience of daily life in Harlem. Personal narratives offer compelling evidence of needed policy changes.

Hope for Change

SES is far from being an immutable force. Reducing poverty and racism would limit the effects of SES on health. Childhood poverty is three times higher in the United States than in 13 other developed countries because of low wages and few benefits offered to unskilled workers and the low minimum wage, according to Sheldon Danzinger, PhD, Professor of Social Work and Public Policy at the University of Michigan's Poverty Research and Training Center. These economic pressures represent problems that other nations have successfully overcome.

Racism in the health professions could be reduced by increasing the numbers of minorities working in health professions. This increase would also enable the profession to be more capable of developing effective interventions for racial and ethnic communities, the poor, and the underserved. Mr. Roca suggested that members of minority racial and ethnic groups should be encouraged to consider health professions earlier in life. Programs like CDC's Office of Science Education, which uses principles of epidemiology to teach middle and high school students about disease prevention and the use of analytic skills, can inspire students to consider careers in public health (see http://www.cdc.gov/excite). Having a doctor of the same minority/ethnic group increased patient satisfaction and participation, according to one study.[8] Minority doctors may also be more willing to work in minority communities, where health care is lacking. And all physicians should be better trained so that patients from all racial and ethnic groups are comfortable with their health care providers and feel that their health care needs will be met.

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Disparities in Maternal and Child Health

Maternal and child health professionals see some of the worst cases of health disparities and are painfully aware that black infants are far more likely than white infants to die or be born prematurely. To eliminate these disparities, researchers are studying how factors such as stress, poverty, and lack of social services affect pregnancy.

"Ten years ago, the variables we were looking at were not explaining racial/ethnic disparities in health," said CDC Epidemiologist Cynthia Ferré, MA. "Poverty was the most common explanation for disparities at that time. Yet Ken Schoendorf's 1992 study[1] indicated that even college-educated black women were more likely than college-educated white women to have infants born with low birth weight or who died within the first year of life. This meant that poverty could not, by itself, account for the disparities we see in health. We needed to develop new explanatory variables, and this fit with the work of the CDC Preterm Delivery Research Group since 1991. The group considers pregnancy as both a biologic and a sociocultural process."

In 1992, the group launched studies in Los Angeles (the Healthy African American Families project) and New York City (the Harlem Birth Right Project) to learn what happens to African American women during pregnancy. Community members participated in the research, which studied women at all levels of socioeconomic (SES) status. This was a way to begin identifying possible new explanations for the persistently observed disparities.

Healthy African American Families, in Los Angeles, examined the roles of health care, stress, family relationships, spirituality, nutrition, work, and community and family assets during pregnancy. In New York City, the Harlem Birth Right project explored how pregnancy was affected by social contexts and support, health care, communitywide stresses (such as housing problems), personal and community economics, work, social services, and resiliency (resistance to stress).

Both studies used qualitative research methods, such as focus groups, ethnography, and open-ended interviews, to describe in detail African American women's experiences during pregnancy. Qualitative research is important when little is known about a phenomenon. It seeks to provide an insider's viewpoint, answer questions of *how* and *why*, and reveal new explanations and hypotheses. "We also found that qualitative research was critical in allowing community voices and perspectives to be heard," added Ms. Ferré. "This was important because we were working with disenfranchised and stigmatized communities."

Similar projects were later conducted in Atlanta (the Atlanta Chronic Stress and Strain project) and Chicago (Social Networks project). In Atlanta, focus groups and interviews were conducted to identify "stressors" (i.e., factors that create stress) and "supports" (i.e., factors that alleviate stress) among college-educated African American women. In

Chicago, researchers looked at how family, friends, and community influence a woman's use of prenatal care and other health behaviors during pregnancy.

Researchers found that racial disparities in SES may be so great that studies cannot adequately adjust for them. Traditional risk factors for very low birth weight (VLBW) infants—the mother's use of alcohol at time of conception, the father having a blue-collar job and low educational level— were not associated with VLBW delivery in black women. Among black women, the only SES factor that affected VLBW was being unmarried.[2]

On the basis of such studies, stress is emerging as a leading risk factor in preterm delivery. "Stress affects many domains, including relationships with partners, housing needs, income, and work," Ms. Ferré said. "Pregnancy is a catalyst that increases the stressors in each domain."

Pregnancy can add more stress for a woman when she does not feel well but still must work and care for her family. She may also worry about how illness will affect her baby. In a 2001 Philadelphia study, researchers learned that women with high chronic stress were more likely to have bacterial vaginosis, an infection associated with poor birth outcomes.[3]

A later analysis showed that housing problems were the factor most highly associated with bacterial vaginosis in pregnancy. The highest levels of interpersonal conflict, material hardship, and neighborhood danger were also significantly associated with the infection.[4] The physical demands of pregnancy also increase work stress, and the overall effects of stress can suppress a woman's immune system, potentially worsening the effects of infection.

Researchers have also found that social support from other women can be both a stressor and a support for pregnant women. Although older women often serve as mentors and role models for younger mothers, they may also make demands that conflict with good health. In the Harlem study, for example, one young woman reported missing prenatal visits because her mother needed her to babysit with younger siblings. In the national "Back to Sleep" educational campaign, which promoted putting babies to sleep on their backs to prevent sudden infant death syndrome, researchers found that many women instead followed the advice of their mothers and placed infants on their stomachs.

Many stressors and other risk factors exist before a pregnancy. These include racism, job stress, stressful relationships, housing problems, lack of social support, low education, low income, and living in run-down communities without important services such as nearby grocery stores.[5] Other factors, such as nutrition and environmental toxins, may also play a role in preterm delivery, said Ms. Ferré. To counter these factors, preventive care should be in place before pregnancy occurs.

Another way to improve birth outcomes is to increase the social support available to women during pregnancy. Through the community's dedication and initiative, Healthy African American Families in Los Angeles has compiled a list entitled "100 Intentional Acts of Kindness to a Pregnant Woman," which includes cooking meals and offering a seat on

buses or trains. They also developed a door-knob brochure to spread information about preterm labor to pregnant women's support networks. The goal of both activities is to focus on social support and other community strengths.

"Improving health holistically during reproductive years may have a lasting influence on a woman's health and the health of her children," Ms. Ferré said.

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Eliminating Disparities in Oral Health: The National 'Call to Action'

Vulnerable populations, including children, the elderly, the poor, and some racial/ethnic groups, continue to experience profound disparities in both their oral health status and access, according to the Surgeon General's landmark report, *Oral Health in America.* One response to the report was the creation of the Partnership Network Group to begin development of a National Oral Health "Call to Action." The group comprises national health, advocacy, and trade organizations; foundations; and federal agencies with oral health programs, including CDC.

"The Call to Action process is intended to stimulate initiatives and expand efforts to improve oral health," said Caswell A. Evans, Jr., DDS, MPH, Director of the Oral Health Initiative in the Office of the Surgeon General, Department of Health and Human Services, who is responsible for coordinating the initiative. "The goal of this process is to foster collaboration and develop shared strategies to promote oral health, prevent oral disease, and provide appropriate care and access to needed services."

This initiative is consistent with recommendations made in the Surgeon General's report, which include development of a National Oral Health Plan with a goal of improving quality of life and eliminating health disparities though effective collaboration at all levels of society among individuals, health care providers, communities, and policy makers.

The following health disparities are highlighted in the report:

- Poor children experience more tooth decay than other children and are twice as likely to have untreated tooth decay. Seventy percent of poor Mexican American children aged 2 to 9 years, 67% of poor African American children, and 57% of poor white children have untreated tooth decay.
- African American men are less likely to be diagnosed with oral cancer at an early stage; the 5-year survival rate for black men is only 34%, compared with a 56% survival rate for white men. African American adults (aged 30 and older) are twice as likely as white Americans to have severe periodontal disease.
- Elderly Americans who have low income or less than a high school education are more likely to have lost all their teeth.

Development of the National Oral Health Plan builds upon action elements identified by the Partnership Network Group and the Surgeon General's report, which include the following:

- Change perceptions of oral health and disease so that oral health becomes an accepted component of general health.
- Accelerate the building of the science and evidence base, strengthen and expand oral health research and education capacity, and apply science effectively to improve oral health.
- Build an effective health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health, and ensure the development of a responsive, competent, diverse, and "elastic" workforce.
- Remove known barriers between people and oral health services.
- Use public-private partnerships to improve the oral health of those who suffer disproportionately from oral diseases.

Beginning in March 2002, five regional listening sessions were held in San Diego, Denver, Atlanta, Chicago, and Cambridge (Mass.) to gather information on priorities and strategies for improving oral health. The sessions included "open mike" public testimony.

As a result of the testimony and written information submitted by more than 150 individuals, organizations, and interest groups, a National Oral Health Plan was drafted during summer 2002. As envisioned, this document will be directed toward a broad audience, including the public, health professionals, directors of community public health programs, and policy makers. It will contain specific actions organizations can take to improve oral health surveillance, epidemiology, and research; policy

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development and implementation; health professions education; delivery of programs and service systems, particularly those that improve access to care; and communications, health promotion, and health literacy.

"We hope this process will create a broadly shared vision and provide a common direction for improving the oral health of the nation," noted Dr. Evans.

Health Disparities Among Native Hawaiians and Other Pacific Islanders Garner Little Attention

Located on beautiful tropical islands 2,400 miles off the coast of the Western United States, Hawai'i promotes itself as the "health state" because of low mortality and disease rates among its overall population and a health care industry that boasts more physicians per capita than the rest of the country. Unfortunately, Hawai'i is not the health state for full-blooded Native Hawaiians, who will be extinct in their own homeland by 2044 if current trends in mortality rates continue.

This alarming prediction was made in 1987 in a report issued by the Congressional Office of Technology Assessment, and little has changed since.

"After that report came out, it just fell on deaf ears and went away," said Claire K. Hughes, DrPH, RD, of the Hawai'i State Department of Health's Office of Health Equity. "It's just those of us who are Native Hawaiian who are saying, 'This is not right, and we need to do something about it.' But not enough is being done, and the death rate is continuing."
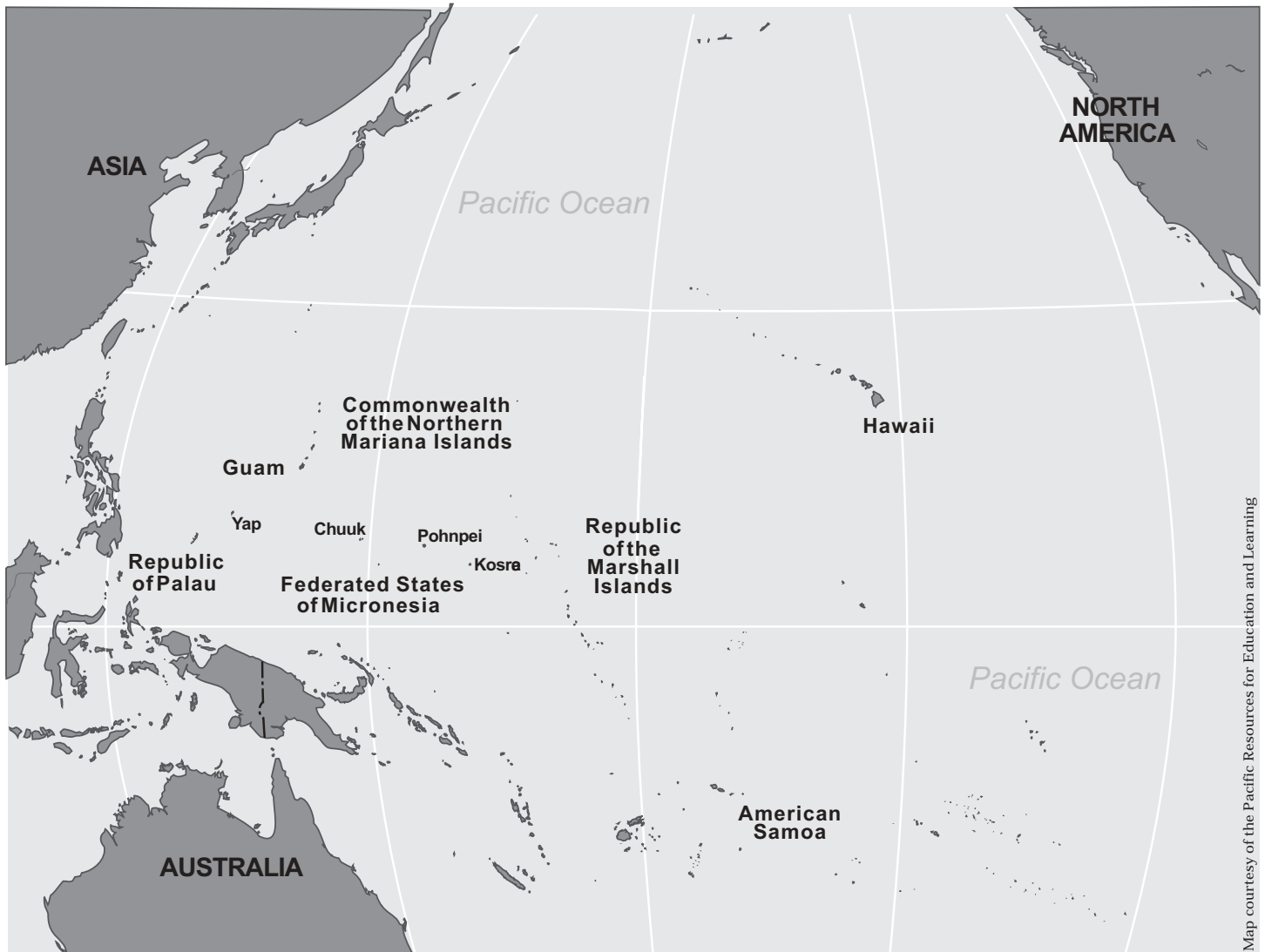
Native Hawaiians, who call themselves Kanaka Maoli, include both full-blooded and part Hawaiians, and most data available on Hawaiians include both categories. Among the

1.2 million people living in Hawai'i, 239,655 identified themselves as Native Hawaiian and one or more other race on the 2000 U.S. census. Full-blooded Native Hawaiians are believed to number about 5,000.

In 1999, the overall age-adjusted death rate for Native Hawaiians was 901 per 100,000, compared with 524 per 100,000 for the total U.S. population (Department of Health and Human Services data). In 1990, census data indicated that death rates for full-blooded Native Hawaiians were nearly four times higher than the rates for all other racial and ethnic groups in Hawai'i combined.

Cardiovascular disease is the biggest killer, with cancer a close second. Mortality rates for all cancers for both men and women are the highest in Hawai'i and the second highest in the United States among all racial/ethnic groups.[1] These rates increased 62% for men and 123% for women from 1976 through 1990. Broken down by cancer site, death rates for women increased 158% for breast cancer, 293% for lung cancer, and 313% for endometrial cancer.

Native Hawaiian women have the second highest incidence of breast cancer among all U.S. women. Although their overall rate is lower

ASIA

Pacific Ocean

NORTH
AMERICA

Commonwealth
of the Northern
Mariana Islands

Hawaii

Guam

Yap   Chuuk   Pohnpei

Republic
of the
Marshall
Islands

Kosra

Republic
of Palau

Federated States
of Micronesia

Pacific Ocean

American
Samoa

AUSTRALIA

Map courtesy of the Pacific Resources for Education and Learning

Health problems are widespread in the U.S.-associated Pacific Islands, which are geographically isolated from the United States and have been used for years as military outposts. Hundreds of small islands and atolls are spread across 5 million square miles of ocean.

than that of white women living in Hawai'i, they are 2.6 times more likely to die. This is true for both male and female Native Hawaiians—once disease is diagnosed, their 5-year relative survival rate for all cancers is 47%, compared with 57% for whites and 55% for all races.

Hypertension, obesity, tooth decay, and poor maternal and infant health are common among Native Hawaiians, and rates of cardio-vascular disorders, obstructive lung disease, and diabetes are high. For example, 80% of Native Hawaiian children aged 6–8 had at least one cavity in 1999, compared with 55% of white children living in Hawai'i (oral health survey data, Hawai'i State Department of Health). During 1996–2000, diabetes incidence was 2.5 times higher for Native Hawaiians than for white residents of Hawai'i of similar age.[2]

However, finding hard statistics for most diseases and behavioral risk factors is difficult, and that is one of the biggest problems facing this long-

ignored group. Until recently, national data collected on Native Hawaiians were lumped under the category "Asian or Pacific Islander" or "Other" if they were reported at all.

"The whole data issue is a systematic problem," said JoAnn Tsark, MPH, Research and Education Director, Papa Ola Lokahi, a nonprofit consortium of agencies that focuses on improving the health and wellness of Native Hawaiians. "The category of Asian or Pacific Islander was convenient for small populations, but it has masked Native Hawaiian health problems. The advertising for our tourism promotes health, but indigenous people are suffering large disparities, not just with cancer, but across the chronic diseases."

Pacific Island Populations Suffer "Third World" Conditions

As bad as things are for Native Hawaiians, they are worse for people living on the other Pacific Islands for which the United States has some jurisdiction or political relationship.

"When we talk about the disparate health rates for Native Hawaiians, people gasp," said Ms. Tsark. "But people would faint if they heard the numbers for the other Pacific Islands. I would classify conditions on many of those islands as third world."

The U.S.-associated Pacific Islands include American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), the Federated States of Micronesia (FSM), the Republic of the Marshall Islands (RMI), and the Republic of Palau (see map on page 15 and box on pages 18–19). These island countries and U.S. territories are made up of

hundreds of small islands and atolls spread across about 5 million square miles of ocean—nearly half the size of the United States—with a total population of 469,356 (1999 and 2000 estimates). Residents belong to at least 19 different subgroups, speak more than a dozen languages and dialects, and have vastly differing cultures.

Health problems are widespread, including high rates of childhood malnutrition, chronic diseases such as heart disease and diabetes, and infectious diseases such as hepatitis B, cholera, dengue fever, and Hansen disease (leprosy). Health care services and infrastructures are limited, with some islands having no doctors or equipment.

"It's so severe that it's somewhat hard to describe," Ms. Tsark said. "In some areas, we're talking about hospitals that don't even have an emergency crash cart to respond to cardiac arrests."

One hospital in the RMI, for example, receives about $2.7 million a year in U.S. funding, which translates to $71 per acute care bed per day. In the United States, approximately $1,000–$1,500 per acute care bed per day is needed to run a second-tier community hospital, according to Neal Palafox, MD, a professor in the John A. Burns School of Medicine at the University of Hawai'i. Worse, U.S. compacts with the RMI and FSM are currently being renegotiated, and funding is likely to decrease substantially.

"If the negotiations go the way they're looking, things will go from bad to really bad because you can't run a hospital on the amount of money they receive now," said Dr. Palafox, who has worked extensively

in the Pacific Islands. "The health disparities that we see now are going to get much worse."

Preventive services like disease screening are practically nonexistent. For example, only a handful of mammography machines are located in the entire region, and continued operational funds are not guaranteed. For some residents, saving enough money to fly to another island for a mammogram would take a lifetime. Even when screening or testing is available, laboratory results can take months or years to process. And if a disease is diagnosed, the person usually must be referred to Hawai'i or the continental United States for treatment—creating a financial burden on the islands' already underfunded health care systems.

Disease and risk behavior surveillance is also nearly nonexistent, meaning few data exist to identify the specific problems and needs of these populations. The few statistics that have been recorded suggest that extensive research and health services are needed, particularly for cancer.

Cancer is one of the top three causes of death on all of the islands except the FSM, according to a 1999 Institute of Medicine report. The worst incidence rates have been recorded in the RMI, where the United States tested thermonuclear weapons during the 1940s and 1950s.

Compared with U.S. rates, age-adjusted data from the RMI for 1985–1994 indicate that incidence for

- lung cancer was 3.8 times higher for males and 3.0 times higher for females.
- cervical and urinary tract cancer was 5.8 times higher for females.
- gastrointestinal tract cancer was 8.5 times higher for females.
- thyroid cancer was 7.2 times higher for females.
- liver cancer was 15.3 times higher for males and 40.0 times higher for females.[3]

Although the history of weapons testing by the United States in this area is suspected to be a major contributing factor to these alarmingly high cancer rates, no national surveillance program exists in the RMI. Even the data that are collected do little good because they are not disseminated to the communities or used to develop treatment programs or services, explained A. Sam Gerber, MS, RD, a public health analyst in CDC's Office of the Associate Director of Minority Health.

Ms. Tsark agreed, noting that "CDC goes every year to record the problems, and there have been some monetary reparations placed in trusts, but we've left that population pretty much hanging."

Advocates for the Pacific Islands believe the United States has an obligation to this area because of the history of using it for military outposts and because of political commitments to provide for the health, education, and welfare of these populations.

"There is no doubt in my mind that the United States is obligated to help the Pacific Islands, not only because of radiation, but because people were moved out of their homes and they had to change their diets because the land was radiated and they couldn't grow their native

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Hawai'i and the Pacific Islands

Hawai'i

Description: U.S. state located 2,400 miles from the West Coast of the continental United States. Composed of eight major islands: Ni'ihau, Kaua'i, O'ahu, Maui, Moloka'i, Lana'i, Kaho'olawe, and the Big Island of Hawai'i.

Land area: 6,425 square miles.

Population: 1,211,537 (est. 2000).

Economy: Tourism, the U.S. military, and agriculture.

Hawai'i is the center of trade and industry for the entire Pacific region. Major ethnic groups include Chinese, Filipinos, Japanese, Native Hawaiians, and whites.

American Samoa

Description: Unincorporated U.S. territory comprising a group of islands in the South Pacific about 2,300 miles southwest of Honolulu.

Land area: 76 square miles.

Population: 67,084 (est. 2001), with most living on the island of Tutuila.

Economy: Tuna fishing, tuna canning, and the U.S. government.

American Samoans are U.S. nationals free to enter the United States. The capital of Pago Pago features one of the best natural deepwater harbors in the South Pacific. American Samoa is separate from Samoa (formerly Western Samoa), a neighboring group of islands that declared its independence from New Zealand in 1962.

The Commonwealth of the Northern Mariana Islands (CNMI)

Description: U.S. commonwealth composed of a chain of 17 volcanic islands in the North Pacific Ocean.

Land area: 181 square miles.

Population: 74,612 (est. 2001), with most living on the island of Saipan.

Economy: Tourism and a rapidly growing manufacturing industry.

Formerly part of the United Nations Trust Territory of the Pacific Islands, CNMI formed closer ties with the United States in the 1970s. CNMI residents are U.S. citizens. Indigenous ethnic groups include Chamorros and Carolinians.

The Federated States of Micronesia (FSM)

Description: Semi-independent nation under a Compact of Free Association with the United States since 1979. Includes four island states: (1) Chuuk, the most populous state, consisting of nearly 290 islands and atolls; (2) Kosrae, a rural volcanic island with many rivers and waterfalls; (3) Pohnpei, the capital of FSM, consisting of the large volcanic island of Pohnpei and six atolls; and (4) Yap, composed of four volcanic islands and 19 inhabited outer islands and atolls.

Land area: 270 square miles.

Population: 134,597 (est. 2001).

Economy: Subsistence farming and fishing. U.S. aid in exchange for exclusive free passage for U.S. military vessels has decreased over the years, causing severe economic depression.

FSM comprises 607 islands, 65 of them inhabited, that are also called the Eastern and Western Caroline Islands. It occupies more than 1 million square miles of the Pacific Ocean and ranges 1,700 miles from east to west. The population includes nine Micronesian and Polynesian ethnic groups.

Guam
Description: Unincorporated U.S. territory in the North Pacific Ocean.

Land area: 212 square miles.

Population: 157,557 (est. 2001).

Economy: U.S. military, tourism (mainly from Japan), and exportation of fish and handicrafts.

Guam's population is highly diverse, with residents from throughout Asia and the Pacific and large numbers of U.S. military personnel and their dependents. The largest native ethnic group is the Chamorro, and residents are U.S. citizens.

The Republic of the Marshall Islands (RMI)
Description: Semi-independent nation under a Compact of Free Association with the United States since 1986. Consists of two chains of 29 coral atolls, each made of many smaller islets, and five low islands stretching across 750,000 square miles. Total number of islands and islets is 1,225.

Land area: 70 square miles.

Population: 70,822 (est. 2001).

Economy: U.S. government assistance and U.S. military facilities for missile testing and space tracking on the island of Kwajalein. Limited agriculture and tourism.

RMI is a former U.S. nuclear test site. The largest native ethnic group is Micronesian.

The Republic of Palau
Description: Semi-independent nation under a Compact of Free Association with the United States since 1993. Consists of a few coral atolls and more than 200 volcanic islands, nine of which are inhabited. Palau is located approximately 500 miles southeast of the Philippines.

Land area: 188 square miles.

Population: 19,092 (est. 2001).

Economy: Heavy reliance on U.S. financial aid, with most residents employed by the government. Tourism is growing.

Most goods are imported from Japan and the United States. Main ethnic groups are Palauan and Asian.

Sources: Pacific Resources for Education and Learning and *The World Factbook 2001.*

Health Disparities Among Native Hawaiians and Other Pacific Islanders

foods," Dr. Palafox said. "Their traditions are based in the land, so when they're moved off, all the lineages are destroyed. It's not just a matter of the radiation, it's a matter of truly destroying a culture, and all of that leads to health problems."

But addressing these problems depends, in part, on clearly identifying them. Health disparities among Pacific Islanders, like those among Native Hawaiians, have been masked for years by federal data collection practices that lump them with Asian Americans—who, as an overall group, have fewer or at least different health problems.

Beginning in 2003, all federal agencies are supposed to begin using the new Office of Management and Budget categories of "Asian" and "Native Hawaiian or Other Pacific Islander" (see page 5 for complete list of racial/ethnic categories). This change is designed to improve data collection on these communities by better reflecting their diversity. It will also allow data to be disaggregated (i.e., broken out into more detail) at state and national levels.

"We cannot really identify the needs of Asian Americans, Native Hawaiians, or other Pacific Islanders separately until we disaggregate the data," Ms. Gerber said. "The problems are hidden."

Tackling the Problems Means Respecting Cultural Diversity

Healthy People 2010, the nation's health promotion and disease prevention agenda, seeks to eliminate health disparities among all minority populations. It also states that intervention programs should value the cultural diversity of the populations they serve and understand that cultural differences can affect health and the effectiveness of health care delivery. Fortunately, many people already working with Native Hawaiians and Pacific Islanders understand that their programs must be culturally and linguistically appropriate.

One such project is Ka Lokahi Wahine (meaning "healthy women" in Hawaiian), which works to ensure good health among all Native Hawaiian women through a partnership with the American Cancer Society. It includes representatives from several health care, cancer, and community-based organizations in Hawai'i.

Ka Lokahi Wahine currently is working to reduce breast cancer among Native Hawaiian women by increasing their use of screening and treatment services. Activities include public service announcements, chart reminders for health care providers, and a training video and manual (with continuing education credits) for health care providers. The video, called "Caring for Native Hawaiian Women," is designed to positively influence attitudes, environments, and cultural interaction in clinics. Suggestions include making waiting rooms less sterile (e.g., adding live plants and Hawaiian artwork), using Native Hawaiian language, and working to create a friendlier environment.

"For example, the physician could say, 'Aloha,' to a woman coming in and feel very comfortable knowing that he was saying 'Good morning' or 'Welcome,' " said Dr. Hughes, a member of the Ka Lokahi Wahine project. "One of the key things women said to us was that as long as the doctor was OK, they would go back. But when the doctor himself was a bit cold and standoffish and maybe communicated less than 100% caring, they would say, 'No use going back there for help.' "

Women who participated in Ka Lokahi Wahine focus groups said that if they visited a clinic or hospital and were treated rudely—which they said was common, especially when they brought children—they would not return for test results or treatment. They also described their experiences with Western health care as impersonal, confusing, and intimidating, leaving them feeling vulnerable and stupid.

The training video recommends that health care professionals (1) be open to patients bringing their family members to appointments, which is a normal part of their culture and might be necessary if they lack child care; (2) use simplified language because many Native Hawaiians do not speak standard English or understand medical terms; and (3) appeal to a woman's need to stay healthy so she can care for her family.

The latter approach is particularly important for this population, something Ms. Tsark helped communicate to the American Cancer Society on another project 10 years ago.

"All of our messages were, 'You deserve to have a mammogram,' and 'You need to put yourself first,' " she explained. "That is very un-Hawaiian. A woman would be considered very selfish to put herself above her family or above the community."

Instead, project staff members asked Native Hawaiian women to help them understand why breast cancer was such a serious problem in their community. In turn, the staff members communicated to the women that they need to stay healthy to care for their families. The response was overwhelming, Ms. Tsark said, because it invoked two major Hawaiian values: "kokua," which means to help without expecting anything in return, and a woman's central role in the family.

The Ka Lokahi Wahine project has garnered positive reactions from health care professionals and increased by 60% the possibility that women would get necessary follow-up care.

Photo courtesy of Papa Ola Lokahi

Members of the Jaluit Atoll Diabetes Group in the Republic of the Marshall Islands receive training from the Pacific Diabetes Today program, which is designed to teach them how to plan and conduct community-based diabetes activities. This program is part of the CDC-funded Pacific Diabetes Today Resource Center.

Penny's Story

Many Native Hawaiians receive inadequate health care and suffer high rates of diseases such as diabetes, cancer, and cardiovascular disease. Factors that influence this problem include low socioeconomic status, distrust of Western medical practices, and geographic isolation (travel between Hawai'i's eight islands is expensive, and nearly 90% of specialists work on one island). Native Hawaiians have also suffered decades of racism, disenfranchisement, and neglect since their once independent kingdom was seized by the U.S. government in 1893.

Penny Keli'i is a Native Hawaiian woman who works in the Hawai'i State Department of Health. At the 16th National Conference on Chronic Disease Prevention and Control in February 2002, Penny shared the following thoughts about her experiences and those of other Hawaiian women with the U.S. health care system.

Photo courtesy of Ka Lokahi Wahine

Outreach Aide Penny L. Keli'i (left) and other Native Hawaiian women attend a "train-the-trainer" workshop to learn how health care and medicine must account for cultural factors to improve services to diverse populations.

Aloha. My name is Penny Keli'i. I was born and grew up in a small town called Hilo, in what was then known as the Territory of Hawai'i. I am 57 years old, nearly 58.

I am normally a fairly brave sort, not easily intimidated or frightened. For the most part, of a rather cheerful and positive nature.

Approximately 1 year ago, after a battery of tests at a well-known medical clinic in Honolulu, it was determined that I, quite possibly, had lung cancer. At first, I was numb with disbelief. After all, within a five-generation span of the women in my family, none had a history of cancer.

So I went outside to have a cigarette and think about this horrid discovery.

The testing relentlessly continued, and the conclusion was reached to remove a third of my lung. My precious lung. I suddenly became an unhappy camper. But I kept it all inside. I had to be brave for my family. They were on the verge of "freak out," and I knew that wouldn't help me. So I kept up a cheerful front, even when consulting with my doctors.

My doctors—what a dismal lot they were. Determined to professionally "lay everything on the line," they left out none of the grisly details. If there was anything positive in this whole thing, they meticulously left it out. How I needed to hear something positive. A dear friend, who happened to be my boss at the time, sat with me during most of the consultations and held my hand even through some minor surgery. I am so very grateful for her comforting presence. As is our culture, I was stoic throughout all the procedures and, carefully watching my face, so was my friend. She knew I was doing what I had to so I could just make it through these painful—both mentally and physically—events.

A biopsy was performed on the nodule on my right lung. I was very conscious and could feel everything. Though I commented that I could feel them digging around, they just said, "Wait! Hold on! Almost through!" and kept going. Suddenly, I distinctly heard the technician say, "Oh, oh, quick, turn her over!" Immediately, I felt them cut an

incision in my chest and insert about six inches of tube into my lung area. My lung had collapsed, and the pain was excruciating.

Just before the biopsy, the surgeon had come to tell me how the procedure would go and what to expect. He told me of the risks and emphasized that he'd done "hundreds of these biopsies and maybe only once had anything gone wrong, such as a collapsed lung." After they inserted the tubing, I never saw him again. I was told that the clinic wasn't open on a date when I should have my tube taken out, so I would have to wait nearly 2 weeks to see them again. They gave me morphine and sent me home. After about 1 week, my friend said, "This is ridiculous! I'm taking you to emergency to have this tube removed!"

And so we very determinedly went to emergency and, after suffering through a great deal of frustration, I finally stood up for myself and told them that I felt totally victimized and had had enough. Why did I have to suffer being treated so poorly until I got so angry that I felt physically ill again?

Mammograms. I had my first one last year. I'm not proud of that, but I was scared. My doctor would tell me, "Make sure you go and get your mammogram done." "Yes, yes," I'd say, and I'd leave and forget about it. Year after year, same thing. Then my doctor changed. She was young, intuitive, and a local girl. Last year, Dr. Jan said, "Penny, when was your last mammogram?" "I've never had one," I answered. She didn't scold me or put me down. I could tell she understood—that I was afraid. There really are some horrid stories about mammograms out there, and whenever you have one of those "female" examinations, you have cause to feel so vulnerable. In my case, she knew just how to handle me. She picked up the phone and called the woman's imaging center directly across from her office and made an appointment for me. She didn't leave it up to me to do it; obviously, it wouldn't get done.

So I finally went. I was so nervous, my daughter and niece came with me. The technician was a young Hawaiian girl named Mahina. My blood

pressure immediately went down. Mahina could see I wasn't thrilled about this process. She was very calm and understanding. First, she explained everything to me about what was going to happen (fear of the unknown is the worst). I asked, "Will it hurt?" She said, "It isn't supposed to hurt. It will be uncomfortable, but if it begins to hurt, we will stop immediately." She repeated, "Mammograms should never hurt. There are other ways of getting this information without hurting your patient." Wow! Took a load off me. And, it didn't hurt. Yes, it was uncomfortable, but not painful. I can do it again, but I want Mahina's table. She helped make it bearable!

I was on a plane recently traveling from Honolulu to my hometown of Hilo. I began a conversation with one of my long-time friends from Kalapana, a very small, remote community on our island. Caroline is a lovely Hawaiian woman, and she was sitting next to me. She said she was just coming home from burying her 29-year-old daughter who died of breast cancer. I was stunned—I hadn't heard. Caroline said, "She died because she was too scared to go to the doctor, and once she finally did, it was too late." It traveled from her breasts to her uterus and then to her brain. This young lady was 29 years old and a mother of three young children. I wept for my friend's loss.

We buried one of my best friends last year, a victim of breast cancer. She was a lovely Hawaiian woman, just 60 years old. She didn't like the way she was treated by the doctors. They "talked down" to her and acted very disgusted because she was afraid of losing her hair. So she stopped going to the doctor. She stopped her treatment. We buried her a year ago . . . with a full head of hair. I miss her so. We scattered her ashes on the slopes of our great mountain, Mauna Kea, exactly as she requested. We were up there a few weeks ago. As is our custom, we brought leis of fresh, sweet, native flowers and ferns and placed them on tree branches where her ashes were. We could feel her energy. It was quite amazing. I still can't believe she's not here. I miss my buddy so painfully.

Different Islands Have Different Cultures and Lifestyles

Another project that uses a culturally sensitive approach is the Malama A Hoʻopili Pono (MAHP) Project on the Big Island of Hawaiʻi (one of the state's eight islands; see box on page 18). Since 1999, this project has worked with other public and private partners to improve maternal and child health and to reduce the high infant mortality rates among the island's Native Hawaiian, Filipino, and other Pacific Islander populations. MAHP's Hawaiian name means "to care for as a mother cares for her child, to hold close these values, and to do these things in a correct and culturally sensitive manner."

MAHP offers prenatal, postpartum, and infant and toddler care services, including those related to mental health, human immunodeficiency virus (HIV) infection, and alcohol and tobacco use. Staff members conduct extensive research on the cultures of the targeted populations and strive to enhance the women's own traditional practices, not override them.

"Native Hawaiian and other Pacific Island cultures are very different," said Penny L. Keliʻi, an outreach aide with the Hawaiʻi State Department of Health. "You can't just say, 'They're all brown, so they all have the same values and the same manner of doing things.' To be culturally sensitive, you really have to study and learn."

Many Pacific Island traditions—including strong familial ties, highly organized communities, traditional health practices, and powerful religious beliefs—have survived despite years of foreign occupation and influence. In the past, Ms. Keliʻi said, traditional pregnancy and child care practices were largely successful, and doctors were not common or necessary.

But as people moved from lifestyles based on communal farming and fishing to ones that were more urban and consumer-oriented, they often faced new economic pressures, drug problems, limited access to nutritious foods, and loss of family support systems—all of which contribute to unhealthy lifestyles.

"People are getting more independent of their culture, which is sad," Ms. Keliʻi said. "We're there to reinforce the wonderfulness of the diversity of culture and to tell people not to lose sight of it. We're also trying to bridge the gap between Western medicine and traditional cultures so we don't lose our own people to fear or to the ignorance of others."

CDC is also helping to bridge this gap by partnering with Pacific Island organizations such as the Pacific Resources for Education and Learning (PREL), a nonprofit group striving to maintain traditional cultures and improve the lives of island populations. Although its main focus is on educational programs, PREL also administers primary prevention and health promotion projects with support from the U.S. government, including CDC.

PREL programs aimed at increasing literacy in this area are also important because language can be a significant barrier to accessing health care

services. Although English is the official language for most government and commercial activity throughout the U.S.-associated Pacific Islands, indigenous languages are more common in people's everyday lives. Many of these languages are not written, and older adults on some islands speak little or no English.

"People often don't have culturally competent interpreters when they visit a doctor," Ms. Gerber said. "Sometimes a 6-year-old has to describe his mother's problem to the doctor, and that's really not appropriate."

Language has also been a challenge in the RMI, where people need to be educated about the effects of radiation from U.S. nuclear testing.

"For years, they've been trying to figure out how to meaningfully educate people on the damages that have been done and what nuclear radiation is," said Dr. Palafox. "It's hard enough in the United States, but imagine trying to teach people about protons, neutrons, or atomic mass when there is not a written language or any vocabulary for these words. It's very difficult to do."

Outreach Programs Work to Improve Access to Care

Cultural and linguistic differences are not the only challenges to health care for Native Hawaiians and Pacific Islanders. Low income, high unemployment, low educational attainment, inadequate insurance, and geographic isolation are also major factors. According to the 1990 U.S. census, Native Hawaiians had the lowest mean personal and family incomes of the five major racial and ethnic groups in Hawai'i—Chinese, Filipinos, Japanese, Native Hawaiians, and whites. Poverty rates among these groups were 14.1% for Native Hawaiians, 6.4% for Filipinos, 5.0% for Chinese, 5.0% for whites, and 1.7% for Japanese.

In addition, the cost of living in Hawai'i is approximately 27% higher than the U.S. average for a family of four, making basic necessities like food, housing, clothing, and health services sometimes difficult to afford. Housing shortages are acute in the state, particularly for low-income residents.

Although most Native Hawaiians live on the more urban island of O'ahu, many others live in rural, isolated communities on Ni'ihau, Kaua'i, Maui, Moloka'i, and Lana'i (the eighth island of Kaho'olawe was used for U.S. military training for nearly 50 years and has no permanent population). Few medical specialists work in these remote areas, and itinerant doctors may visit only once a month. If people need specialized testing or if a disease is diagnosed, they usually must travel to O'ahu for care. If they don't have relatives or friends to stay with, expenses add up quickly: round-trip airfare between the islands is $120, and hotels and taxi services are expensive.

"When you come from a neighbor island to O'ahu, just getting to and from the major treatment centers is costly," Dr. Hughes said. "If you need to stay overnight for treatment, it's beyond the reach of median-income or low-income people."

In 1988, the Native Hawaiian Health Care Improvement Act created a

system to address the health problems facing Native Hawaiians. As the coordinating agency for the Native Hawaiian Health Care System, Papa Ola Lokahi advocates for five health care clinics throughout the state and works with other state and private agencies to offer or support a range of services. Examples include disease screening and health promotion activities, such as encouraging people to return to the traditional Hawaiian diet, which includes poi (taro root), fish, sweet potatoes, and fruit. This diet is much healthier than the high-fat, low-fiber, and high-sugar Westernized diet many have adopted over the years.

Papa Ola Lokahi also operates the CDC-funded Pacific Diabetes Today Resource Center (PDTRC) to provide training and support for community-based diabetes prevention and control activities in Hawai'i and the U.S.-associated Pacific Islands.

Projects like PDTRC help address health problems among Pacific Islanders, who face many of the same socioeconomic problems as Native Hawaiians. According to the 1990 U.S. census, Pacific Islanders have a per capita annual income of $10,342, compared with a national average of $14,143, and 17% live in poverty. High school dropout rates are high, and only 11% graduate from college.

Much of the Pacific Island region is economically and socially unstable after years of heavy dependence on U.S. and other foreign aid. Most items, including food, must be imported. Tourism and the U.S. military are the biggest industries, and economic development is limited by small markets and increased migration, as thousands of people

seek opportunities elsewhere. As in Hawai'i, geographic isolation can be a significant barrier to health care.

"It takes 30 days to get around all the atolls on the Marshall Islands if you don't catch the tides correctly," Ms. Gerber said. "People just die if they need care quickly."

In addition to local and regional efforts to address these problems, more attention is coming from the national level as part of the White House Initiative on Asian Americans and Pacific Islanders (WHIAAPI). This initiative seeks to improve quality of life for these populations by increasing research and data collection, promoting greater access to government services (including language programs), and increasing outreach and partnerships with community groups. Other groups working to address health disparities among Pacific Islanders include the Asian and Pacific Islander American Health Forum (APIAHF) and the Association of Asian Pacific Community Health Organizations (AAPCHO).

More Data and More Funding Needed to Address Problems

Although current efforts are helping, health care professionals and advocates who work in the Pacific Islands say much more is needed. Many hope that the new federal racial and ethnic categories will prompt greater awareness of the region, as well as additional research and access to funding. Even today, much of the funding available never reaches the Pacific Islands because limited resources and infrastructure make it

impossible to meet federal deadlines and grant requirements.

In January 2001, the WHIAAPI President's Advisory Commission on Asian Americans and Pacific Islanders called on the federal government to form partnerships in affected communities that maximize resources and increase the effectiveness and efficiency of government programs and services. The commission also asserted the ability of these communities to help solve their own problems and called for more protection of civil rights and equal opportunities. Many of these communities have historically suffered exclusion and discrimination, which has also played a role in the lack of meaningful data on Native Hawaiians and Pacific Islanders.

"When statistics are sitting in data sets but aren't accurately presented, I think we need to call it racism," Ms. Tsark said. "We are hard pressed to get Native Hawaiian numbers even in our own state. Sometimes the numbers are small, but you can aggregate the data over several years to get more accurate figures.

"And even when the state has Native Hawaiian data, when they are remitted to a national data set like the Behavioral Risk Factors Surveillance System, they are lumped together as 'Asian American and Pacific Islander,' " she continued. "That's totally meaningless to us, and it's hurtful. Our Asian population, unlike the continental United States, which reflects more immigrant and refugee populations, are fourth- and fifth-generation residents. They are generally very healthy, which accounts for Hawai'i having one of the highest life expectancies in the nation. But it totally masks the problems of Native Hawaiians."

Ms. Tsark looks forward to the day when data on Native Hawaiians and Pacific Islanders are fully disaggregated so they are meaningful to smaller groups, particularly for the latter population.

"We keep feeding the norm about the Asian American and Pacific Islander group," Tsark added. "I would like to see the day when Pacific Islanders say, 'We don't want to be the 'other' Pacific Islanders,' and I think they deserve that."

References

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Conferences and Meetings

Second Annual Primary Care Conference

"Prevention, Public Health, and Primary Care: Partners in Eliminating Health Disparities in the South" will be held October 31, 2002, through November 2, 2002, at the Sheraton Atlanta Hotel in Atlanta, Georgia. The conference is designed to expand attendees' knowledge base, and a wide array of topics will be addressed, including cardiovascular disease, cancer, diabetes, obesity, women's health, infectious disease, and social and behavioral health. For more information, visit www.i3m.org/msm.htm or call 386/447-9006.

9th Annual Minority Health Conference, Healthy Texans 2010

The city of Irving, Texas, and the Texas Department of Health are sponsoring their 9th annual conference November 7–9, 2002, in Irving, Texas. The conference will showcase successful outcome-based community programs and will have a primary focus on cardiovascular disease, cancer, and diabetes. The conference will provide opportunities for networking among the 500 expected participants. For more information, visit http://www.ci.irving.tx.us/healthtx/letter.htm or E-mail healthytx@ci.irving.tx.us.

2002 National Conference on Tobacco or Health

The 2002 national conference will take place November 19–21, 2002, at the Hilton San Francisco in San Francisco, California. The purpose of the conference is to help improve and sustain the effectiveness and reach of tobacco control programs and activities in the United States. For more information or to register, visit http://www.tobaccocontrolconference.org/2002Conference.

CANFit Program Third Biannual Conference

The California Adolescent Nutrition and Fitness (CANFit) Program will host its third biannual conference—*Recipes for Success*—November 20–22, 2002, in San Diego, California. The conference is for those working with young people aged 10–14 years and looking for innovative and culturally appropriate ideas to promote healthy eating and physical activity and to prevent obesity. Workshops will highlight successful programs and strategies, encourage interaction and critical discussion, and offer skill-building activities. An exhibit of programs and resources will provide additional information. If you are interested in exhibiting, contact the PHI Conference Logistics Team at 916/925-0983. For hotel reservations, contact the Shelter Pointe Hotel and Marina in San Diego at 800/566-2524 or visit www.shelterpointe.com. For other questions, call CANFit at 510/644-1533 or visit www.canfit.org.

2002 National Pregnancy Risk Assessment Monitoring System (PRAMS) Meeting

The National PRAMS Meeting will take place December 9–10, 2002, at the Sheraton Sand Key Resort in Clearwater Beach, Florida. The biennial National PRAMS Meeting provides networking and educational opportunities for CDC external researchers, organizations interested in PRAMS data, and states currently participating in PRAMS or interested in beginning a PRAMS project. The meeting will feature sessions on PRAMS operations and management, analysis of PRAMS data, and ways to use PRAMS surveillance data to improve programs and guide policy decisions. This year's meeting will immediately precede the Eighth Annual Maternal and Child Epidemiology Conference on December 11–13, 2002. For more information about the National PRAMS Meeting, contact Leslie Lipscomb at 770/488-6335 or LLipscomb@cdc.gov. For more information about the PRAMS project, visit http://www.cdc.gov/nccdphp/drh/srv_prams.htm.

Diabetes Prevention in American Indian Communities: Turning Hope Into Reality

The Diabetes Prevention in American Indian Communities conference will be held December 10–13, 2002, at the Adams Mark Hotel in Denver, Colorado. The conference objectives are to provide a forum for the American Indian

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community to develop partnerships in diabetes-related activities and share information on American Indian community-based activities in diabetes care and prevention; current research on diabetes care and prevention relevant to American Indian communities; and the results, outcomes, and effectiveness of diabetes-related activities in American Indian communities. For more information, contact Amy Benton at 301/897-2789 extension 126 or ABenton@thehillgroup.com or visit www.niddk.nih.gov/fund/other/conferences.htm.

Eighth Annual Maternal and Child Health Epidemiology Conference

This annual conference will take place December 11–13, 2002, at the Sheraton Sand Key in Clearwater Beach, Florida. The conference theme is "Counting the Women, Children, and Families Who Count on Us." For more information, contact Jessie Richardson Hood at 770/488-6250 or mchep@cdc.gov.

17th National Conference on Chronic Disease Prevention and Control

CDC's National Center for Chronic Disease Prevention and Control will host its 17th annual conference February 19–21, 2003, at the Millennium Hotel in St. Louis, Missouri. The conference theme is "Gateway to Lifelong Health: The Community Connection." Participants will learn about emerging chronic disease issues, data applications, and intervention research. Participants will also have the opportunity to network with health and other professionals and discover what others in the chronic disease field are doing in communications, training, policy, and partnerships. For more information, E-mail Dale Wilson at dnw3@cdc.gov or visit http://www.cdc.gov/nccdphp/conference.

Annual CDC Diabetes Translation Conference

The annual CDC Diabetes Translation Conference will be held March 31–April 3, 2003, at the Westin Copley Place in Boston, Massachusetts. The conference will bring together local, state, federal, and territorial government agencies and private-sector diabetes partners. Participants will explore science, policy, education, and program planning, implementation, and evaluation issues to help reduce the burden of diabetes. Conference updates and the call for abstracts will be posted on the Internet at http://www.cdc.gov/diabetes.

21st National Conference on Health Education and Health Promotion

The 21st National Conference on Health Education and Health Promotion will be held May 21–May 23, 2003, in San Diego, California. The conference theme is "Emerging Opportunities for Health Promotion and Health Education: Sailing Into New Waters." Subthemes include "Policies and Environmental Interventions: Making Them Work," "Addressing Multicultural Relevance and the Unequal Burden of Disease," and "Creative Funding in Difficult Times." The conference is sponsored by the Association of State and Territorial Directors of Health Promotion and Public Health Education and Health Promotion and CDC. For more information, visit www.astdhpphe.org/nationalconference.

5th Annual Public Health Prevention Service Conference

"Pulling the Pieces Together: Working Toward a Common Vision" is the theme of the 5th Annual Public Health Prevention Service (PHPS) Conference. The conference will take place June 9–12, 2003, at the Embassy Suites at Centennial Olympic Park in Atlanta, Georgia. The PHPS is a 3-year training and service program providing early career public health professionals with an opportunity to practice public health in various settings. The conference will provide a forum for prevention specialists and representatives from CDC, state and local health programs, academic institutions, national organizations, and private public health agencies to meet, network, and share innovative strategies and expand knowledge for addressing public health issues. For conference information, contact Gayle Daniels at GDaniels@cdc.gov or 404/639-3756. For additional information about the PHPS program, visit http://www.cdc.gov/epo/dapht/phps.htm.

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12th World Conference on Tobacco or Health: Global Action for a Tobacco Free Future

This conference will take place August 3–8, 2003, at the Helsinki Fair Centre in Helsinki, Finland. The conference will bring together some 2,000–3,000 professionals involved in tobacco control work and will address the global extent of the tobacco epidemic and the efforts being made to tackle it. A major theme will be the social process for a smoke-free world and the broad partnership needed to accomplish this. In addition, the implementation of the Framework Convention on Tobacco Control, initiated by the World Health Organization, will be discussed. More information can be found at http://www.wctoh.org or can be requested via E-mail at wctoh2003@congcreator.com.

CDC's 2003 Cancer Conference

CDC's 2003 Cancer Conference will take place September 15–18, 2003, at the Atlanta Marriott Marquis Hotel in Atlanta, Georgia. The preliminary theme is "Comprehensive Approaches to Cancer Control: The Public Health Role." The conference will focus on where we are now and what we need to prepare for the future, focusing on prevention, early detection, treatment, rehabilitation, and palliation. Cosponsors of this event are the American Cancer Society National Home Office, CDC, Chronic Disease Directors, the National Cancer Institute, and the North American Association of Cancer Registries. More information will be posted at http://www.cdc.gov/cancer.

Communications

CDC's National Program of Cancer Registries

This fall, CDC's National Program of Cancer Registries (NPCR) and the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) registry program will jointly publish official federal cancer incidence statistics for all states that have high-quality data. This publication, *U.S. Cancer Statistics: 1999 Incidence*, is produced in collaboration with the North American Association of Central Cancer Registries. The report will provide cancer statistics for cases diagnosed in 1999 and will cover about 78% of cancers diagnosed in the United States that year. State-specific cancer statistics will be included for 37 states, 6 metropolitan areas, and the District of Columbia. October 2002 marks the 10th anniversary of the passage of the Cancer Registries Amendment Act (Public Law 102-515), which authorized the establishment of the NPCR. Before the NPCR was established, 10 states had no registry, and most states with registries lacked the resources and legislative support to collect needed data. CDC now supports central registries and promotes the use of registry data in 45 states, the District of Columbia, and three territories. CDC's goal is for all states to establish registries that provide high-quality data on cancer and cancer care. CDC plans to highlight the anniversary with a special event recognizing the progress of the NPCR.

National Public Health Initiative on Diabetes and Women's Health

The Centers for Disease Control and Prevention (CDC), the American Diabetes Association, the American Public Health Association, and the Association of State and Territorial Health Officials cosponsor the *National Public Health Initiative on Diabetes and Women's Health*, which has three phases: a report, an action plan, and a national conference. In 2001, CDC published the report *Diabetes and Women's Health Across the Life Stages: A Public Health Perspective.* In 2002, the group developed the *Interim Report: Proposed Recommendations for Action* in preparation for the *National Public Health Action Plan on Diabetes and Women's Health.* Both reports are available on the Web at http://www.cdc.gov/diabetes/projects/women.htm. In 2003, CDC will publish the *National Public Health Action Plan on Diabetes and Women's Health* and sponsor a national partners conference. Any individual or representative of an organization who wants more information on joining or supporting the diabetes and women's health initiative may E-mail Michelle Owens at MOwens1@cdc.gov. To order single copies of the *Diabetes and Women's Health Across the Life Stages* report and get other information about diabetes from CDC, call toll free 877/CDC-DIAB, E-mail diabetes@cdc.gov, or visit http://www.cdc.gov/diabetes (select Publications and Products).

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Atlas of Stroke Mortality: Racial, Ethnic, and Geographic Disparities in the United States

In January 2003, CDC will release the *Atlas of Stroke Mortality: Racial, Ethnic, and Geographic Disparities in the United States*. This publication is the third in a series of CDC atlases related to cardiovascular disease, which have been published through a collaboration between CDC and West Virginia University. The *Stroke Atlas* will provide, for the first time, an extensive series of national and state maps that show local disparities in stroke death rates for the five largest racial and ethnic groups in the United States (i.e., American Indians and Alaska Natives, Asians and Pacific Islanders, blacks, Hispanics, and whites). In 2000, CDC released *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality*, and in 2001, *Men and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality*. Together, these publications have informed policy makers and researchers about the serious disparities in heart disease mortality. Interactive versions of the heart disease atlases are currently available at http://www.cdc.gov/cvh.

The Future Directions of the Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual, state-based telephone survey that routinely collects behavioral risk factor information and demographic information (e.g., age, race, sex) on a monthly basis. Active in all 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands, the BRFSS continues to be the primary source of information on major health risk behaviors by U.S. adults. Because of the continually evolving survey environment, the BRFSS must constantly confront and overcome new challenges. The CDC Behavioral Surveillance Branch, Division of Adult and Community Health, NCCDPHP, held a strategy meeting May 22–23, 2002, in Atlanta, Georgia, to explore ways for the Behavioral Risk Factor Survey to meet future challenges in three areas: technology, methodology, and systems. Experts from CDC, states, academia, and private-sector organizations participated in the meeting. The final recommendations will be incorporated into a paper, "The Future Directions of the Behavioral Risk Factor Surveillance System," to be published in CDC's *MMWR* later this year. This document will provide operational guidance for the state-based surveillance system for the next 5 to 10 years, help CDC and its state partners to successfully meet evolving changes in the survey field, and ensure that the BRFSS continues to provide timely and high-quality data. For general information on the BRFSS, visit http://www.cdc.gov/brfss.

Dynamic Dollars to Mobilize Public Health Efforts: Preventive Health and Health Services Block Grant

The Preventive Health and Health Services (PHHS) Block Grant is a congressionally mandated grant provided annually to 61 grantees (all 50 states, the District of Columbia, 2 Native American Indian Tribes, and 8 U.S. Pacific Islands) to support the *Healthy People 2010* health objectives. CDC recently developed a brochure to increase awareness of the valuable role the PHHS Block Grant funds play to complement categorical and state funding to address and improve the public's health. For additional information, call 770/488-5645 or visit http://www.cdc.gov/nccdphp/prevbloc.htm.

Background Papers from Surgeon General's Workshop on Children and Oral Health Now Available

Disparities in children's oral health are the focus of six background papers that have been published as a supplement to the journal *Ambulatory Pediatrics* (Volume 2, No. 2, March–April 2002). These papers, prepared for the March 2000 Surgeon General's Workshop on Children and Oral Health, also discuss ethics, demographic and social trends, the dental workforce, health systems, and strategic communications including the social marketing approach. To order a copy, contact CDC at oralhealth@cdc.gov or telephone 770/488-6054. Transcripts, papers, and other materials resulting from the June 2000 Surgeon General's conference, "The Face of a Child," are available at http://www.nidcr.nih.gov/sgr/children/children.htm.

Guide to Community Preventive Services: Promoting Oral Health

The Task Force on Community Preventive Services' systematic review of interventions to promote oral health was published in a July supplement of the *American Journal of Preventive Medicine* (Volume 23, No. 1S). The supplement

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articles provide 1) Task Force recommendations on community interventions to prevent dental caries, oral and pharyngeal cancers, and sports-related craniofacial injuries; 2) supporting evidence; 3) economic evaluations of recommended interventions; 4) areas in which high-quality research is still needed; and 5) expert commentary. A summary of selected guidelines and evidence reviews provides an accessible review of the evidence of effectiveness of interventions related to those evaluated by the Task Force. The supplement will be posted to the *Community Guide's* Web site (www.thecommunityguide.org), which also includes a summary of the oral health review, fact sheets about school-based dental sealant programs and community water fluoridation (the two interventions strongly recommended), and answers to frequently asked questions (FAQs). You can order a copy of this publication by contacting CDC at oralhealth@cdc.gov or telephoning 770/488–6054.

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