National Heart, Lung, and Blood Institute

Improving Health | Changing Lives

Communities Taking Action

Steps to a HealthierUS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health
National Heart, Lung, and Blood Institute

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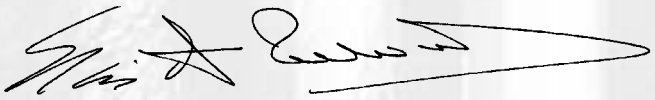
A Message From the Director

The National Institutes of Health (NIH)—the Nation's leading biomedical research institution—is dedicated to innovation and discovery in the medical sciences. From its inception as a single laboratory housed in one building to the present 27 Institutes and Centers, the NIH has never changed its fundamental mission to support and further medical science with the goal of improving health.

In meeting today's health challenges, NIH makes delivery of the news of its research results a critical part of its efforts to inform the American people who supported the work and stand to gain from the benefits.

Improving Health, Changing Lives: Communities Taking Action offers stories of communities touched and transformed by the results of NIH research. In innovative community-based initiatives that embrace outreach, education, motivation, and mobilization, these stories show how the best tools of medical science bring new hope to diverse communities.

Bringing research results to people in the most effective way remains a vital task. The vigorous community-based programs described here help make the benefits of research a reality for every American community. At the local and regional level, powerful partnerships for health are created and sustained, enabling scientific discovery to improve health, reduce burdens of disease, empower Americans—and better quality of life for more Americans.



Elias A. Zerhouni, M.D.

Director
National Institutes of Health

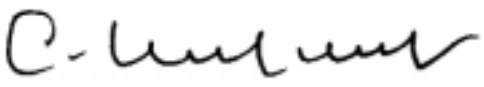
Foreword

For more than a half century, The National Heart, Lung, and Blood Institute (NHLBI) has led the way in the fight against diseases of the heart, lungs, and blood, and sleep disorders. But as understandings of disease deepened, another critical issue emerged: the need to take the fruits of research to the people—to translate medical science into real health benefits for every American.

Many Americans do not enjoy the health improvements that science-based information can offer. We know a great deal about how to prevent and treat these diseases and every American could benefit from this information. The problem is that this information is not being fully utilized.

Improving Health, Changing Lives: Communities Taking Action offers portraits of high-risk communities throughout the country, which are committed to better utilization of NHLBI science-based information to eliminate health disparities and increase the quality and years of healthy life. From school-based outreach and faith-based initiatives, to the work of health care providers in small and large clinics and hospitals, partnerships are emerging and thriving. Whether the promotores of Texas or community health representatives at Laguna Pueblo in New Mexico or the lay health workers of the Mississippi River Delta, these individuals stand at the center of some of the most effective health campaigns now at work in America.

NHLBI's logo, "People – Science – Health," exemplifies this effort, characterizing a broad range of community-based programs designed to reduce risk, improve health and quality of life, and limit the costly economic and personal burdens of disease.



Claude Lenfant, M.D.

Director
National Heart, Lung, and Blood Institute
National Institutes of Health

Making Hearts Healthy in Appalachia

In the coalfields of southern West Virginia health risks abound. The local population tends to smoke (with smoking and other tobacco use often starting in early adolescence), tends to be overweight or obese, and currently endures unacceptable rates of high blood pressure, heart disease, and diabetes. In the only State lying fully within Appalachia (where cardiovascular mortality stands second highest in the United States), unemployment hovers well above the national average and access to physicians and other health care professionals is frequently difficult, if not impossible.

In a place like southern West Virginia, children are often the first victims of the problems their region faces. For example, 5th graders in the rural counties surrounding the cities of Huntington and Charleston have elevated cholesterol and blood pressure levels compared with their peers from other parts of the country. And more than one-quarter of school-age children in West Virginia are overweight or obese—a key risk factor for the development of cardiovascular disease (CVD) and diabetes.

Although ample research confirms that the risks of CVD and other chronic illnesses can now be limited—or even prevented entirely—the people of West Virginia have often been deprived of this knowledge and its benefits by geographical isolation, poverty, and limited educational resources. Like Americans in similar situations, including American Indians and Alaska Natives, African Americans, and Hispanics, the need for the good news from our nation's research laboratories is pressing. But getting health messages to Americans is no simple matter: information with the potential to improve thousands of lives must be "translated" from research and scientific publications into clear and understandable messages. And, after that, those messages must be effectively disseminated, in culturally sensitive ways, using a wide array of media in order to reach the greatest number possible.

Is there a way to get the word out in a place like rural West Virginia? Definitely, says Pat White, M.P.A., M.P.H., administrator of West Virginia Health Right, the oldest

free clinic system in the State and the site of a National Heart, Lung, and Blood Institute (NHLBI) supported effort, The Healthy Heart Project. An NHLBI Enhanced Dissemination and Utilization Center, or EDUC, The Healthy Heart Project is one of 12 such innovative programs nationwide. Funded by NHLBI to conduct outreach and education in promoting heart healthy behavior, The Healthy Heart Project is "a different kind of animal from what NHLBI has funded in the past," according to Ms. White. "We're not an academic center or a tertiary care center—and our patients are the impoverished and the uninsured. We were already bringing health education into the center of our work, so the opportunity to become an NHLBI EDUC fits nicely with our programs. But NHLBI's support has enabled us to move to another level, to expand services, and to establish specific support and training groups."

Is there a way to get the word out in a place like rural West Virginia?

Retired coal miner Charlie Riddle, a Healthy Heart Project participant, knew his health was in trouble. "I had picked up quite a bit of weight, my cholesterol was at dangerous levels, my triglycerides were out of whack—I was a wreck. I knew I had to make changes." Mr. Riddle found help in making those changes in The Healthy Heart Project with its group sessions devoted to weight loss, diabetes, high blood pressure, and physical activity—even line dancing and heart healthy cooking. All of this is an effort to compare outcomes between patients receiving education and medical treatment versus those who receive medical treatment alone. Participants in the education group learn about risk factors and the personal behaviors that will make a difference. "We've had patients successfully quit smoking, get their blood sugar levels under control, and lose weight," says Ms. White. "And our cooking classes show folks that preparing low-fat, low-calorie meals at home is not as time-consuming or expensive as they might have thought—and they are surprised to learn that the food tastes good, too."

Ms. White hopes The Healthy Heart Project will support the roles of outreach and education as valid methods for reducing cardiovascular risk. "It's very exciting," she says, "because we're seeing evidence that we can reduce risk as we limit people's dependencies on the health care system. And, of course, this is not just an effort that looks at individual patients. It's all about the larger system of care for the uninsured and underinsured poor who have no other resources. And, so far, the outlook for change is excellent."

As The Healthy Heart Project makes progress with West Virginia adults, another NHLBI EDUC targets the State's children. Shari Wiley, R.N., F.N.P., a nurse practitioner based at St. Mary's Hospital in Huntington, West Virginia, heads HEART (Helping Educators Attack Cardiovascular Risk Factors Together). A school-based program that launched in April 2001, HEART targets more than 8,000 children in the 3rd, 4th, and 5th grades in 40 public schools in three counties along West Virginia's southern border with Kentucky. HEART is all about bringing the news of CVD risk to children and their families—along with, most importantly, ways to fix the problem.

Ms. Wiley and her colleagues distributed an NHLBI pamphlet called *Eating With Your Heart In Mind* during HEART's first school-based screenings in 2001. Recalling a moment with a boy during a cholesterol screening, Ms. Wiley said he talked about sharing *Eating With Your Heart In Mind* with his mother, asking her to try some of the pamphlet's heart healthy tips and recipes. "These kids have become very serious about their cholesterol,"

A Healthy Heart Project group session on diabetes.

Ms. Wiley says. "We're seeing that bringing the health message into schools really excites and motivates children. And long before many of the other influences in their lives begin to weigh against healthy choices."

Ms. Wiley described a new HEART-YMCA partnership in Huntington, West Virginia. "We're piloting this intervention in five elementary schools that are in walking distance of the Y, with around 25 kids involved in the pilot. One mother told us how much trouble she'd had motivating her daughter to exercise. Her daughter was part of our YMCA partnership—and she's now a regular exerciser, she pushes her family to take walks together, she signed up for swimming lessons at the Y, and went out for basketball—and made the team! And the wonderful thing is that we're seeing this kind of change in many children, not just rare individuals."

Another HEART partnership includes a collaboration with the West Virginia CARDIAC Project (Coronary Artery Risk Detection in Appalachian Communities), led by William Neal, M.D., a West Virginia University-based pediatric cardiologist. The CARDIAC Project had been operating in the State since 1998 with support from the West Virginia Rural Health Education Partnerships, but targeted only 5th graders in two counties of the southern border area. HEART's catchment area, with its broad-based NHLBI mandate, included three border counties and spanned 3rd through 5th grades. In an example of community-based synergy at work, HEART and The CARDIAC Project linked forces. Dr. Neal continues to perform screenings in those counties where he has established relationships with schools and teachers—but thanks to HEART's role as an NHLBI EDUC the screenings now include three grade levels. And children, teachers, and parents

Footprints painted on the walking course at Spring Hill Elementary School, Huntington, West Virginia.

can avail themselves of HEART's expanded program offerings, materials, activities, in-service trainings, and exercise sessions.

In the 2001 school year HEART screened nearly 800 children (and 1,400 in the 2002 school year), revealing a startling fact: more than half of the children screened had either borderline elevated or elevated cholesterol, and were at risk for overweight and obesity. "In addressing these issues," Ms. Wiley says, "part of our initiative is an exercise program called the Feelin' Good Mileage Club. We've got children and their parents walking for health in a voluntary program. Through outreach efforts and information shared by our health care providers and classroom teachers, children learn not simply that exercise is good for us but *why* it is."

The results so far? More than 2,000 of Appalachia's at-risk children have collectively walked more than 10,000 miles. Some schools have actually built outdoor tracks to support this effort. "25 Mile Clubs" have been created which give children awards and prizes for every 25 miles walked. Teachers have been transformed into health

Teachers have been transformed into health ambassadors. Families are finding that health-promoting change is not only possible, but also fun.

ambassadors. Families are finding that health-promoting change is not only possible, but also fun. And West Virginia University is now considering support that will bring the program to every county in the State.

Other HEART strategies include grade-appropriate classroom curricula on heart disease, nutrition, exercise, and the risks of tobacco use. Outreach to parents promotes the same information and attitudes, and teachers receive regular in-service programs to expand their skills in teaching health and healthy lifestyles.

And as HEART makes headway with the children of West Virginia, The Healthy Heart Project points the way for the State's at-risk adults in its group sessions devoted to exercise, blood sugar control, diet, and blood pressure. The word about cardiovascular risk is reaching West Virginians, young and old, as community-based partnerships work together to encourage people to make life changes. As people demonstrate through weight loss, increased activity, and reduction of risk factors that science can be effectively translated into authentic health benefits—and that education motivates change—The Healthy Heart Project and HEART are working examples of risk reduction and health improvement in the real world, at a time when many Americans need it most.

America's Public Health Challenges

Screening for high blood pressure in an Arkansas Delta church.

The health of Americans has never been better. Although many factors have contributed to this—including new understandings of the biology of human health—much of the credit goes to public health and its longstanding emphasis on disease prevention. Improvements in housing, nutrition, and sanitation, particularly since 1900, helped Americans become more resistant to disease and to live longer, healthier, more productive lives. Life expectancy, itself a key indicator of general health improvement, has seen a greater increase over the last 100 years than at any point in recorded history.

But the revolution in public health—while standing among our most enduring and significant social achievements—brought unexpected challenges. As American life spans grew longer, new patterns in disease and mortality have emerged. Where hunger and malnutrition ravaged our populations in 1903, epidemics of overweight and obesity now plague us in 2003. Acute medical conditions were the primary cause of illness and death in 1903, but chronic ailments are now responsible for our most serious health concerns. Indeed, chronic illness is the critical health challenge of this new century. As heart disease and stroke remain the first and third leading causes of death in the U.S., control of key risk factors like blood pressure or cholesterol levels, particularly among older Americans, is less than optimal. Teenage smoking is on the increase. Overweight and obesity along with high levels of physical inactivity is on the rise. And there are striking geographic variations in heart disease and stroke death rates, as certain racial and ethnic minority groups continue to be disproportionately affected.

FACTS

Fact: Heart disease is the number one killer of Americans, and the leading cause of death in women over the age of 40. Yet science tells us that preventive activities—cost-effective personal behaviors—will sharply reduce the risk of heart disease.

Fact: Asthma is the most common cause of school absences as well as the most common cause of pediatric hospital admissions nationwide. Yet research has demonstrated that much of the burden of asthma can be mitigated through personal behaviors.

Fact: Obesity is epidemic in the United States, with approximately 122 million overweight and obese adults and almost 9 million overweight children and adolescents. Most surveyed Americans are aware of this national problem—but are less clear on what to do about it.

Fact: 60% of American adults do not get enough physical activity and more than 25% are not active at all. Again, a majority of surveyed Americans recognize the problem, but not how to address it.

And while chronic illnesses are the most prevalent and costly of the nation's health burdens, these illnesses are also the *most preventable*—sounding a clarion call to action for America's health institutions and agencies.

The NHLBI brings an investment in research that now spans more than 50 years. With science-based data confirming that risk factors for cardiovascular and respiratory diseases can be addressed at the individual level, the job now is to take that message to Americans. People can stop smoking, get more exercise, improve their diets, and lose weight, but they need to know about these strategies. And, with knowing, that *enacting* these strategies will make positive differences in their lives.

One of the 27 Institutes and Centers within the National Institutes of Health (NIH), NHLBI is a key Federal agency charged in the national campaign to address the major chronic diseases facing Americans today. Responsible for research into diseases of the heart, blood vessels, lungs, and blood as well as sleep disorders, NHLBI also provides leadership and resources for a number of programs that educate the American public about these diseases.

NHLBI seeks solutions—and an end—to the geographic, racial, cultural, and ethnic disparities in CVD in the United States. By partnering with concerned community members and groups that deal with these health challenges on a daily basis, a broad-based and far-reaching program of NHLBI-sponsored community-based initiatives has come into being.

Taking the Message to Americans

On June 20, 2002, President Bush unveiled his administration's HealthierUS Initiative. As he emphasized that "every little bit counts," the President encouraged Americans to do what they can to be more active in their daily lives.

The President offered a four-point challenge to the nation:

Be physically active every single day. The evidence is clear and abundant: regular physical activity at virtually any level is critically important throughout life. Active lifestyles help to avoid the changes traditionally associated with aging and reduce the impact that high blood pressure, heart disease, and diabetes can have in much younger individuals.

Eat a nutritious diet. Only 25 percent of American adults and less than 20 percent of younger people eat the recommended servings of

fruits and vegetables each day—and well over half of the nation's children and teens consume excess saturated fat.

Participate in preventive health screenings. Periodic screenings help to detect health problems early, often when treatment is most effective.

Make healthy choices by avoiding risky behavior. Tobacco, alcohol, and illicit drug use increase the chances of illness, disability, and premature death.

Secretary of Health and Human Services, Tommy G. Thompson, says, "Focusing on prevention is one of our major goals at HHS," and is implementing Steps to a HealthierUS to advance the President's initiative.

Active lifestyles help to avoid the changes traditionally associated with aging and reduce the impact that high blood pressure, heart disease, and diabetes can have in much younger individuals.

Echoing the messages and principles sounded by the President and the Secretary, Healthy People 2010, the cornerstone for planning efforts, serves as the national roadmap to creating better health. Utilizing 28 focus areas around which outreach campaigns can be implemented, Healthy People 2010 offers several areas (including heart disease and stroke, respiratory diseases, nutrition, overweight, physical activity, access to services and care, education and community-based programs, and health communications) that serve as specific points of departure for NHLBI's community-based initiatives.

NHLBI's community-based programs are committed to bringing the results of medical research to the public. These efforts span heart disease and stroke, obesity, and asthma, and employ an array of techniques that create and bridge community partnerships in promoting greater knowledge of preventive health and health-enhancing behaviors. Among these are school-based initiatives that carry the health message to young people; faith-based projects using churches as centers for advancing health and reducing risk factors; coalitions and consortia that mobilize health action networks within towns, cities, and States, and collaborations between communities with medical schools, hospitals, and clinics.

Healthy People 2010

is intended to achieve two overarching goals: to help people of any age increase life expectancy and improve their quality of life, and to eliminate health disparities among different segments of the population. **Healthy People 2010** offers specific objectives within each focus area, creating a template for both implementation and tracking of outcomes, with clearly identified targets for improvement in all areas.

From the Inside Out

Improving Health and Changing Lives in American Communities

Danville, Virginia middle school students take a breather from jumping rope.

The NHLBI is taking aggressive steps to enhance dissemination and outreach activities, with programs to improve the distribution, reach, and impact of health-enhancing messages. A key opportunity for accomplishing this is through the resources found in communities. Americans have always held their communities close as source points of their best energies and closest ties, and this tradition is critical to the success of NHLBI's community-based initiatives.

But much remains to be done. Many Americans, observed NHLBI Director Claude Lenfant, M.D., do not enjoy the health improvements that science-based information can offer. "We know a great deal about how to prevent and treat cardiovascular disease and every American could benefit from this information," says Dr. Lenfant. "The problem is that this information is not utilized effectively."

The nation's minority communities have not shared equally in the benefits of America's investment in scientific discovery. NHLBI is meeting these challenges through a dynamic investment in community resources, bringing health messages to people everywhere by activating and informing their own voices. In helping to transform community members into health advocates, and incorporating culture, lifestyles, language, and community-based values in science-based messages, NHLBI programs empower communities to find and develop health advocates. As new health messengers are discovered—and new partners are identified within communities—heart healthy programs are made and sustained by the communities themselves.

Meeting Heart Disease Where It Starts

Reaching out to people in at-risk, low-income, and minority communities, the NHLBI mission is to send

science-based information about CVD to people who need it most, in forms they can understand and immediately apply in their lives. The NHLBI's CVD outreach efforts are realized through several initiatives, including the Enhanced Dissemination and Utilization Centers (EDUCs), Hearts N' Parks, and several programs tailored for minority populations that specifically target the burdens imposed by heart disease and stroke on their communities.

The EDUCs effort is represented by NHLBI partnerships with 12 community-based coalitions. They are synopsized on pages 20-23. The EDUCs target communities where heart disease and stroke death rates stand well in excess of national averages, and are a key element in NHLBI's response to the Healthy People 2010 objectives, including the elimination of racial and ethnic disparities in disease, and the overall improvement of health care for all Americans. As seen in the dynamic EDUCs of West Virginia, this effort carries unique potential for communicating health messages that make critical differences in reducing the burdens of care and disability on communities, States, and the nation.

Hearts N' Parks is another potent NHLBI initiative that links the power of community with the fresh energies of exercise programs, new information about health and diet, and the benefits of maintaining a healthy weight. One of NHLBI's most innovative and far-reaching efforts, Hearts N' Parks is a partnership with the National Recreation and Park Association reaching out not just to adults at risk for disease, but children—before their risk magnifies through years of inactivity and unhealthy eating.

The Cardiovascular Community Case Manager

I handle case management for individuals who have been in the hospital due to congestive heart failure (CHF). I have a patient who was an emergency department repeater and was frequently admitted to the hospital. With case management he has started weighing himself daily, watching his salt intake, and exercising more. Since then, he's been admitted to the hospital only once for CHF, his weight is maintained, and he says he's feeling much better since the program was implemented for him. He lives alone, and always tells me he is so glad that someone is watching out for him who cares about his health.

Another patient of mine weighed 353 pounds when I took her case. I followed her at home and began CHF teaching, stressing the importance of weight loss, limiting salt intake, and so on. She was very interested in trying to make a change, but she had a problem: she couldn't afford a bathroom scale to monitor her progress. I was able to find a discounted scale for her through a program at Dan River Medical Center. When I took the scale to her, she discovered she'd lost 15 pounds! She says she's beginning to feel much better with a few dietary changes and the addition of walking to her life. She has started with a short, slow walk—but it's daily. Hopefully she'll be walking 1/2 to 1 mile soon. That's the goal.

Another CHF patient on the case management program lives in an adult home. He suffers with mental retardation and has trouble understanding the need to avoid salty foods. He's able to walk to a nearby grocery store where he "pigs out" on chips, soda—all the salty stuff. Thanks to the resources of DRchip, we've prevented two emergency department visits by having the home health nurse go to the group home, make an assessment, and administer diuretics. The added benefit is that the staff at the home have started heart healthy cooking, watching food labels, and now everyone who works there is eating in a healthier manner!

Heart Healthy Lifestyles
School Program

During our school-based blood pressure screenings in 2001/2002, we found several children with consistent elevations. We've educated all of them on the dangers of high blood pressure—particularly if unattended over a lifetime—and because of our intervention program many parents are taking their children for medical care and encouraging the children to work on heart healthy lifestyle and behaviors.

A 6th grade boy, after participating in our HeartSmart program, told the class about talking to his mother about her smoking and lack of exercise. He realized that his mom's sedentary lifestyle and smoking increased her chances of heart disease. His mother is now walking the school track with him each night, but she's not yet willing to quit smoking. Still, our student plans to keep working on his mom.

DRchip middle school students use hula hoops for fun physical activities.

Another girl reported that after doing her Family Tree Project she realized she has a strong history for hypertension and heart disease. She also recognized that she is overweight for her age and height, and said she would begin to change her diet and try to eat healthier foods.

We followed an 8th grader for persistently elevated blood pressure readings. Her blood pressures had been elevated and there'd been no response from her parents to either of our two notification letters. Later, the student's father was seen at a high school band concert. When asked how his daughter was doing he reported that they had indeed taken her to a doctor about her blood pressure, and she was under treatment. He said there was a strong family history for hypertension, but neither he nor his wife had thought to have the children checked.

Several families have sent letters to us after our blood pressure screening letters went out. They said they would watch their children's blood pressure periodically. And some of the 6th grade teachers have launched a weight control program because of discussions they've heard in the HeartSmart nutrition classes. Several more of the teachers have asked specific questions in regards to healthy diet planning.

NOTES

The Community Outreach Case Manager/Cardiovascular Health Educator

We screened a 64 year-old woman at the YMCA who had a history of high blood pressure and is on medication. Even with medication, her blood pressure remained borderline, but after the DRchip screening and a discussion of her risks she reports losing 15 pounds. And her blood pressure is now within normal range. She's sticking with a low-sodium, low-saturated fat, low-cholesterol diet and intends to lose more weight. Her mother died at age 48 of a massive heart attack, and she's now aware of the significance of this family history. She is aware of her increased risk of heart disease and is following recommended lifestyle modifications as a result of her DRchip screening and education.

A hypertensive, diabetic woman at the DRchip blood pressure class at Tarpley's Chapel spoke about failing to follow her doctor's recommendations in regard to lifestyle modifications. As a result she is on dialysis for kidney failure and has had a heart attack. After taking the blood pressure training class, she realized that she could offer herself as an example to witness to others about the importance of lifestyle modifications.

And First State Bank created and posted flyers on stress reduction in the work place after a DRchip representative spoke at the bank on stress and its relationship with CVD!

Hearts and Souls in Southern Virginia and the Arkansas Delta

Cardiovascular disease—heart disease and stroke—is a significant burden for African American communities. Two NHLBI EDUCs are based in communities with distinctive African American populations, and both are making headway against CVD with inventive agendas that educate, inspire, and empower.

The Dan River Region Cardiovascular Health Initiative Program (DRchip) in Danville, Virginia is located in a designated Medically Underserved Area. The incidence of coronary heart disease (CHD) in southern Virginia is in the nation's top 15 percent, and the stroke death rate is twice the national rate. To address this situation, DRchip was created, a partnership between the Danville Medical Center and the Danville/Pittsylvania Public Health Department—an effort designated a Cardiovascular Center of Excellence by the Consortium for Southeastern Hypertension Control in 1999.

As an NHLBI EDUC, DRchip has expanded its focus to provide comprehensive education for the public (including risk factor identification) as well as for health professionals. Various strategies include community cardiovascular risk factor screenings and referrals; collaboration with locally based hypertension and lipid specialty clinics, a hospital-based case management program, and education activities with schools (DRchip's Heart Healthy Lifestyles School Program), the YMCA, churches, as well as local businesses and banking institutions.

The Delta Health Education Center (DHEC), in the Arkansas Delta, is a program of the University of Arkansas for Medical Sciences in Little Rock that implements professional education and church-based health education programs to improve cardiovascular health in St. Francis and Lee Counties. For the last 5 years, Arkansas has ranked as the least healthy State in

The DHEC Heart and Soul project distributes NHLBI educational materials through the participating churches.

the U.S., and that burden is sharply felt in these two counties in the Mississippi River Delta, both of which are largely rural, impoverished, and in the top 15 percent of national rates for CHD and stroke mortality.

A unique faith-based initiative, DHEC unites the counties' churches in reaching people at risk for CVD with the local health care network to reduce risk. With input from county advisory boards, DHEC works with approximately eight churches in each county. "Most people are very loyal to their church," says Becky Hall, Ed.D., DHEC principal investigator and program director. "Most people feel a sense of family and community in their churches. So it seemed a very natural fit for our churches to tell their parishioners: we care about you, heart and soul."

Half of the churches in each county participate in either a Lay Health Minister program or a Witness Role Models program. In the Lay Health Minister programs, health professionals from participating congregations conduct health evaluations of community members and followup with information, advice, and referral services for those found to have CVD risk factors.

In the Witness Role Models program, survivors of stroke or heart disease from each congregation work with a health educator to present information to the congregation about CVD risk factors—and their personal experiences with CVD. One Witness, James Coleman, summed it up when he told his fellow parishioners that the symptoms of a heart attack "will warn you. If you heed the warning and get to a doctor, I guarantee you will not regret it."

All participating churches are offered opportunities to provide educational activities for congregation members in a wide range of health areas, including tobacco cessation, nutritional counseling, and exercise classes. Cooking demonstrations and youth group presentations aimed at discouraging tobacco use and encouraging heart healthy eating and physical activity are also available. In addition, DHEC, in conjunction with the University of Arkansas for Medical Sciences regional programs, provides training programs and continuing medical education courses for physicians, physician assistants, nurse practitioners, nurses, and office staff in the two counties.

"The NHLBI EDUC philosophy seemed so closely aligned with ours it was a perfect match," Dr. Hall says. "And now we're feeling that the future of health in the Arkansas Delta is bright."

A Heart and Soul Scrapbook

We screened a woman at the Methodist Church who had extremely high blood pressure, but she was not feeling bad. We impressed on her that high blood pressure often had no symptoms, and she must go and see about it. She had an appointment to see her doctor in 2 weeks—but we told her that her pressure was so high the problem couldn't wait. That was on Saturday. She went to the doctor on Monday. She later told us that the doctor said that if she had not come in when she had, she might not have been alive by the end of the week. Needless to say she was very happy our DHEC team came to the church—and so was her church family.

At the Atkins Boulevard Church of Christ we found a man who had high blood pressure in need of attention. He was supposed to be on medication but had quit taking it. We helped to get him back to his doctor for care, and he's now taking his medicine again.

National Heart, Lung, and Blood Institute

CVD Enhanced Dissemination and Utilization Centers

NHLBI awarded the first six CVD EDUCs in April 2001. The results of those projects will be reported in 2004. A second wave of six CVD EDUCs was awarded in late September 2002, and those results will be reported in 2006. The 2002 EDUCs will be featured more fully in subsequent publications.

Each EDUC meets the requirement that the health service area where the project is being implemented falls within the top 15th percentile for coronary heart disease and/or stroke mortality, either overall or within one or more of the race-gender groups. A synopsis of each of the 12 current EDUCs appears below.

2001 EDUCS

Little Rock AR

University of Arkansas for Medical Sciences, Delta Health Education Center
St. Francis and Lee Counties, AR

Partners	AR Association for Medical Access; AR State Minority Health Council; AHA; hospitals and clinics; faith-based alliance; county family resource center and Cooperative Extension Service
Target Population	African American and white members of 16 churches, their families and friends; MDs, RNs, LPNs, and office staff
Strategies/Activities	Faith-based approach conducted in churches: monthly blood pressure monitoring and counseling with high-risk patients referred for treatment; heart and stroke "witnesses" provide models of behavior change; and conduct smoking cessation, CPR, exercise/physical activity, and nutrition classes
Desired Outcomes	Increased understanding of CVD risk-reduction strategies and confidence to make behavior changes; increased physical activity and controlled hypertension; decreased tobacco use

Winston-Salem NC

Wake Forest University
Columbus and Robeson Counties, NC

Partners	S and NW Area Health Education Centers; State health department; Lumberton Chamber of Commerce; Food Lion Supermarkets; NC AHA; UNC-Pembroke; Duke University School of Medicine
Target Population	African Americans and Native Americans; 15,000 patients served annually; of 166 individuals screened at 1 event 47% referred for followup care; 44% SBP > 140 mmHg; 11% DBP > 90 mmHg; 34% HDL > 40 mg/dL
Strategies/Activities	Community-based organization training program to enhance advocacy skills for environmental policy changes; screening and referrals for HBP, cholesterol, blood glucose; primary care physicians and emergency service providers' professional education
Desired Outcomes	Increased communities' awareness of CVD risk factors and MI early warning signs; increased awareness of CVD prevention resources; improved knowledge of state-of-the-art emergency care practice by providers

Fort Worth-Metroplex Area TX

University of North Texas
Tarrant and Dallas Counties, TX

Partners	City and county health departments; community health centers and clinics; hospitals; HRSA; senior centers; faith-based organizations
Target Population	Low-income Spanish- and English-speaking Latino families; conducted 344 community lifestyle behavior assessments; trained 18 lay health educators; conducted readiness assessment with 31 partners
Strategies/Activities	Train lay health educators (promotores) to conduct family health screenings, education and referrals for BP, cholesterol, BMI, tobacco use, physical activity, and glucose
Desired Outcomes	Increased heart health knowledge and practice of heart healthy behaviors; increased scores on core competencies and performance skills of promotores; decreased prevalence of risk factors; increased dissemination efforts

Danville VA

Dan River Regional Medical Center
Pittsylvania, Henry, and Halifax Counties, VA and Caswell County, NC

Partners	Danville Regional Medical Center; middle schools; faith-based organizations; businesses
Target Population	1,000 low-income African American and white children in 3 middle schools and their families; community at large; 3 churches; 6 businesses; YMCA; 50 community physicians; 79% of 6th, 7th, and 8th graders with high-normal or HBP also overweight; large proportion of children are African American
Strategies/Activities	Screening and referrals for BP, cholesterol, BMI; case management of high-risk patients; family education; professional education
Desired Outcomes	Decreased prevalence of CVD risk factors; improve cardiovascular health knowledge in students; increased provider use of appropriate treatment guidelines; reduced emergency department visits

Charleston WV

West Virginia Health Right, Inc.
Kanawha, Mason, Clay, Jackson, Boone, Putnam, Logan, Mercer, and Fayette Counties, WV

Partners	Senior centers; Cooperative Extension Service; Manna Meal local soup kitchen
Target Population	Uninsured and underinsured poor adults and children who receive services from the Health Right clinic
Strategies/Activities	Cholesterol, HBP, diabetes, tobacco use, and BMI detection; education and counseling on cardiovascular health, physical activity, nutrition/healthy cooking, weight loss, tobacco cessation, diabetes education/healthy cooking, early warning signs and symptoms of heart attack and stroke; medication treatment; women's heart health education program
Desired Outcomes	Increased BP and cholesterol control; reduced prevalence of HBP, cholesterol, smoking, and overweight; reduced medication due to behavior change; increased 911 access; increased knowledge of actions to take to prevent heart disease and stroke by women with CVD risk factors

Huntington WV

St. Mary's Hospital
Cabell, Lincoln, and Wayne Counties, WV

Partners	St. Mary's Hospital; school system; WV Dept of Education; WV Bureau of Public Health; WV AHA; WV University; Marshall University Medical School; YMCA
Target Population	8,000 3rd, 4th, and 5th graders, their families, and school staff including food service in 45 public schools in Appalachia; 40% of 5th graders overweight; 15% hypertensive; 11% elevated cholesterol levels
Strategies/Activities	Screening and referrals for HBP, cholesterol, BMI; walking program for students and parents; healthy lifestyles school curricula; school breakfast and lunch program modification; teacher CVH training; and family education
Desired Outcomes	Decreased prevalence of CVD risk factors; increased knowledge of risk factor prevention; increased physical activity; improved school food with more heart healthy choices

2002 EDUCS

Colorado Springs CO

The Penrose-St. Francis Health Services Health Learning Center
El Paso County, CO

Partners	Senior Health Center; Community Network of Caring; local AHA; media; faith-based organizations; El Paso County Department of Health; health care providers; local businesses
Target Population	Women
Strategies/Activities	Community awareness raising; screening and referral for HBP control; heart healthy diet and exercise lifestyle interventions; control of obesity and other CVD risk factors for HBP; collaboration with health care providers; case management.
Desired Outcomes	Increased awareness of stroke risk factors; increased HBP control; increased control of BP to reduce stroke events

Baltimore MD

The Housing Authority of Baltimore City
Baltimore, MD

Partners	US DHUD Baltimore office; Morgan State University; Baltimore City Department of Parks and Recreation; local public housing residents
Target Population	40,000 African American public housing residents
Strategies/Activities	CVD risk factor screenings; train-the-trainer community health worker programs; work with neighborhood grocers, fast food restaurants, and schools to encourage adults and children to choose heart healthy foods; establish safe places to engage in physical activity; develop community partnerships and coalitions to increase policymakers' awareness of CVD issues
Desired Outcomes	Increased awareness and adoption of appropriate lifestyle behaviors for cardiovascular health; increased number of residents both adults and children who choose heart healthy foods and safe places for physical activity; increased number of local partners advocating for improved community heart health

Omaha NE

The Creighton Heart Education Center
Omaha Metropolitan Area; Douglas County, NE

Partners	Creighton University Schools of Medicine, Nursing, and Pharmacy; The Charles Drew Clinic; Douglas County Health Department; Catholic Charities
Target Population	African Americans
Strategies/Activities	Media and public education campaigns; town hall meetings; community CVD risk factor screening, referral, and followup using mobile screening unit and health fairs; nutrition (shopping, cooking, and healthy eating), blood pressure, and exercise courses; train community heath advocates to conduct comprehensive heart health awareness activities; professional education training
Desired Outcomes	Increased awareness of and action to control CVD risk factors; increased adoption of heart healthy lifestyle behaviors; increased physicians' awareness and application of latest NHLBI CVD "best practice" interventions

Winston-Salem NC

Wake Forest University School of Medicine
Forsyth, NC

Partners	Forsyth County Health Department; Consortium for Southeast Hypertension Control; Tri-State Stroke Network
Target Population	African Americans
Strategies/Activities	Community-based CVD risk factor screening, referral, and followup; personalized health action plans; training of community health advisors to implement education activities; community events to increase awareness; worksite wellness programs
Desired Outcomes	Increased awareness of and community education about stroke risk factors; increased control of stroke risk factors; reduced incidence of stroke among African Americans

Dayton OH

The Wright State University Division of Health Systems Management
Montgomery County, OH

Partners	Local health care providers; primary care organizations; insurers; public health officials; media; local employers; Premier LDL Reduction Project; Consortium for Southeast Hypertension Control
Target Population	Appalachian and African American patients and their physicians
Strategies/Activities	Know your numbers campaign; BP and cholesterol management through systems changes –chart audits, case-based interactive education/training, utilizing "best practices" from NHLBI clinical practice guidelines to detect, treat, and control HBP and high blood cholesterol
Desired Outcomes	Increased community awareness/knowledge of CVD risk factors; improved physician practice behavior related to controlling HBP and high blood cholesterol; increased number of people treated for HBP and high cholesterol; improved patient outcomes and satisfaction

Toledo OH

Toledo Hospital
Lucas County, OH

Partners	Ottawa Coalition neighborhood; Owens State Community College health and hospitality studies students; local PBS station WGTE
Target Population	30,000 minority and low SES residents, mostly African Americans
Strategies/Activities	Walking clubs; BP, cholesterol and exercise train-the-trainer programs; culturally tailored nutrition, smoking cessation, and heart attack warning signs courses; community education forums
Desired Outcomes	Increased awareness of BP and cholesterol numbers; increased heart healthy behaviors; increased knowledge of heart attack warning signs and actions to take


Welcome to North Texas Salud para su Corazón
Outreach Education Initiatives

Communities in Cooperation

Sharing and Synergy

Healthy Hearts in Hispanic Communities

Teaching the promotores about high blood cholesterol and its effect on arteries.

As the largest minority group in the U.S., 35 million Latinos constitute 13 percent of the population. And as one of the youngest U.S. population groups, there is a unique opportunity for Latinos to encounter health messages at younger ages, along with the chance to maintain healthy behaviors throughout their lives. As early as 1994 the NHLBI started to develop strategies and tools to help accomplish this goal. Salud para su Corazón (SPSC), a comprehensive health promotion, education, and outreach initiative, was launched to increase awareness and knowledge about CVD prevention and promote heart healthy lifestyles among Latinos. One NHLBI CVD EDUC located in north Texas is now using the materials and tools to implement outreach and education activities in a local Latino community characterized by poverty, unemployment, poor education, and limited access to health care and preventive health services. Based at the University of North Texas Health Science Center at Fort Worth, the North Texas EDUC operates in partnership with a community-based clinic, Harris Methodist Fort Worth Hospital, and two community-based coalitions in the Dallas/Forth Worth area.

"Heart disease is the leading cause of death in Latino communities," observes Hector G. Balcazar, Ph.D., M.S., program director of the North Texas SPSC EDUC. "Our community here in north Texas is certainly no different. We needed to bring programs that would really make an impact, and our collaboration with NHLBI is precisely that sort of partnership."

A major focus for SPSC is the use of lay health educators, called Promotores de Salud, to help identify individuals with CVD risk factors

and guide them through treatment and followup, providing individualized risk reduction education and promoting adherence to prescribed regimens. The program has also launched a variety of neighborhood and community-wide awareness and education activities, such as guided group discussions, or charlas, community health fairs, cooking demonstrations, and mass media activities to reach community residents with heart health and family wellness messages.

"Cuéntamelo" (tell me about it) helps measure the impact and effectiveness of SPSC programs, shares those results with the community and other programs, and serves as an idea-generator and focal point for community feedback and support. The cuéntamelo evaluation tools use a variety of culturally specific methods that integrate planning, continuous feedback, and program accountability, with methods that track, guide, and assess project performance at three levels: promotores, families, and community-based organizations.

Salad para su Corazón: Promoting Health from Within The Community

The same SPSC framework that provides both foundation and impetus for the University of North Texas EDUC has connected with Latino communities across the United States. The promotora concept has taken science-based health messages where they have rarely gone before. As one of many NHLBI health promotion programs targeting ethnic, racial, and cultural minorities, SPSC reflects the Institute's goal to change the way people think about their health, part of the wider aim to reach every American with life-saving information.

The idea that the most persuasive health educators in minority communities will come from within those communities has proven its worth from an initial pilot project in Washington, D.C., to seven

The D.C. Community Alliance for Heart Health carries the SPSC banner in the Hispanic Heritage Month parade.

initiatives in New Mexico, Texas, California, and Illinois. When Mary Luna Hollen R.D., Ph.D., of the University of North Texas EDUC described a promotora as "a caring person who lives in the community and retains the culture and the language," she observed that "this is the reputation of these individuals, the way they're seen by the community—as somebody you can trust, somebody you love to be around." This trust and confidence is earned and carried by the Salud promotores, and stands at the heart of one of the country's most powerful minority health outreach efforts.

In 2001, the SPSC expanded into the lower Rio Grande Valley in southwestern Texas, through a new partnership with the Health Resources and Services Administration and others. Known as SPSC-Las Colonias, this project incorporates SPSC information, skills, and activities into existing activities in the border area of south Texas. Interventions will be based in schools, clinics, and the distinct communities arrayed along the border known as "colonias," rural, low-income neighborhoods facing a number of challenges in education, social services, and public infrastructure, as well as health care services.

Another collaboration partners the National Council of La Raza (NCLR), the nation's largest Hispanic community organization,

Promotora de Salud

Teresa Andrews, a promotores coordinator in Escondido, California, changed not only her own life but is now helping to improve the health of others in her Latino California community. Her story illustrates the power of SPSC to not simply provide a health outreach benefit, but to change lives, enhance self-esteem, and bring more Americans into the circle of the nation's promise.

With Ms. Andrews' move to the United States, she left behind not only her support group of friends and family, but also an entire lifestyle. Although she had walked everywhere in her native country, she found nothing near enough to walk to in her new adopted home in suburban southern California. She did not speak English, her husband needed the family car each day to get to his job, and Ms. Andrews found herself isolated and limited to only the simplest duties of a homemaker and mother. With grocery shopping difficult, Ms. Andrews' native cooking traditions using fresh vegetables and fruits fell away as she found herself turning to fast food for most of her family's meals. Her frustration grew with a lifestyle she seemed helpless to change, and she became depressed, gaining weight along with her sense of disconnection and isolation.

But when Ms. Andrews discovered SPSC and became a promotora, she was part of a group of Spanish-speaking people who shared many of her experiences and had found innovative ways to cope. "The training I received as a promotora helped me learn how to protect my own and my family's heart health by modifying the new lifestyle I picked up after moving to the U.S.," Ms. Andrews says. Her spirits rose and her weight fell; partly thanks to the Spanish-language aerobics class she attended—and which she now has led for 4 years.

Dr. Hector Balcazar instructing promotores on SPSC.

with Salud's promotores. "We are working together toward a common goal—improving health outcomes in the Latino community," said NCLR President Raul Yzaguirre. The NHLBI-NCLR partnership has, since 1999, expanded the SPSC effort by implementing culturally appropriate prevention strategies to address health disparities in Latino communities. With funding from the Metropolitan Life Foundation, and with the University of North Texas Health Science Center School of Public Health in an advisory role, there are now six community-based service agencies implementing the SPSC-NCLR program: Centro San Bonifacio, Chicago, Illinois; Escondido Community Health Center, Escondido, California; Hands Across Culture Corporation, Espanola, New Mexico; Centro San Vicente, El Paso, Texas; Council for Spanish Speaking, Stockton, California; and Center for Hispanic Policy and Advocacy, Providence, Rhode Island.

"For the promotores to develop as community educators, they need adequate tools," says Odelinda Hughes, promotora de salud at Centro San Vicente, El Paso, Texas. "With Salud para su Corazón, the heart health tools are simple, bilingual, and practical. This makes our work in the community easy and effective."

There are many stories from The North Texas SPSC EDUC, stories of hope, of possibility, of lives touched and changed. As the promotores continue to make a difference, their value is measured by evaluation results that have shown significant increases in awareness, knowledge, and practices related to heart disease risk factors, along with a high level of satisfaction with the educational materials as well as how the information is presented. Latino families and communities take pride and exhibit confidence in their informed heart health choices.

Heart Health for American Indians and Alaska Natives

Although American Indians and Alaska Natives (AI/AN) are the smallest self-identified racial-ethnic group in the United States, this group is represented by 547 tribes spread among the 50 states. A spectrum of cultures distinguishes these communities enriched by beliefs, distinct heritages, and the vast and various geographies that so define the lives and histories of the nation's Native Americans.

Within this diversity, however, a pattern of parallels and shared values distinguish AI/AN values, including family and tribal-centered cultures, a sense that communities and individuals should strive to live in harmony with the natural

Tribal community members receive training in Santa Fe, New Mexico.

"Our people want to get out there and teach and do something about our problems, because virtually everybody here has been touched in some direct way by heart disease and its complications."

environment, and an abiding respect for a traditional world view handed down through hundreds of years. As such, AI/AN communities offer unique points of departure for locally based health outreach programs.

CVD is responsible for more deaths among AI/AN men and women over the age of 45 than any other cause. The rise of CVD and related problems like obesity, high blood pressure, and diabetes can be charted with the gradual adoption of Western lifestyles by AI/AN people over the 19th and 20th centuries. As we embark on a new century, AI/AN communities are experiencing the burden of CVD as never before.

Understanding both the uniqueness and commonality in AI/AN cultures is key to mounting programs that resonate within the AI/AN tribally rooted communities. And targeting these needs has brought into focus the strengths and resources of NHLBI's community initiatives—notably an ability to create new synergies with and among each other, from program to program and person to person.

Ideas and tools developed among any one minority community "benefits us all," notes Natalie Thomas, program manager for healthy heart efforts at Laguna-Acoma, an AI community in New Mexico. "With our large population of people with diabetes—a key risk factor for heart attack and stroke—there's a great deal of interest in health here at Laguna-Acoma. Our people want to get out there and teach and do something about our problems, because virtually everybody here has been touched in some direct way by heart disease and its complications. So we're happy to have help and advice from our friends in other communities who face so many of the same concerns."

NHLBI researchers had worked to identify the burdens of CVD among AI/AN communities with the Strong Heart Study, which estimated cardiovascular morbidity and mortality along with the prevalence of risk factors, and received overwhelming support from individuals and tribes at study sites in central Arizona, southwestern Oklahoma, and in North and South Dakota. A subsequent program called Pathways was a multisite school-based obesity prevention effort designed to assess the ability of outreach and education to reduce prevalence of obesity in school-aged children by promoting healthful eating and physical activity. With the data from the Strong Heart Study in hand, and encouraging results from Pathways,

NHLBI moved ahead to translate science into action for American Indians and Alaska Natives.

A turning point came in May 2001 with an NHLBI-sponsored workshop, Mobilizing American Indian and Alaska Native Communities for Improving Cardiovascular Health. Sixteen tribal representatives from three disparate AI/AN communities (Laguna-Acoma, Ponca, and the AN villages at Bristol Bay, Alaska) came together for a 2-day workshop. After returning home and reviewing strategies, the communities realized they still needed greater skills for delivering the heart health message to their people.

Proud graduates of the week-long Sante Fe training conference.

The Elders not only bring endorsement of Laguna's healthy heart initiative, but their own advocacy "carries enormous weight in our community."

As the AI/AN pilot communities requested more training, the Indian Health Service (IHS) encountered the NHLBI Latino outreach manual *Your Heart, Your Life.* Interested in the possibility of adopting the manual for AI/AN use, IHS sought input from NHLBI who in turn asked their AI/AN partners to consult on the manual development. This activity—adapting the Latino manual for use in AI/AN communities—led to a pivotal training conference.

That conference, held in Santa Fe, New Mexico, turned new ground when the lay health educators from Latino communities—the promotoras—brought their insights, skills, and passion to the event. Serving as trainers to their colleagues from Bristol Bay, the Ponca Tribe, and Laguna Pueblo, the conference created a unique transcultural blend. Since that time the promotoras have participated in followup conference calls with AI/AN project managers, and have served as both friends to the cause and mentors in the work.

Ms. Thomas of Laguna-Acoma recalls the promotoras as "truly inspirational. One of the Latina trainers in particular, Teresa Andrews, was so powerful and effective that we saw, first hand, right there in front of us, what could be accomplished in bringing the health message forward. Another wonderful aspect of this is the network of friends that's been created—I keep in touch with Teresa on a regular basis, for example. We're constantly trading ideas."

Ms. Thomas notes that each of Laguna's six villages has an assigned community health representative, or CHR. "They do screenings for blood sugar, blood cholesterol and check body mass index—and they teach," she says. "We connect with people wherever we can: when they make a clinic visit, or just walking down the street. And we also have the very important support of our Elders." The Elders, Ms. Thomas explained, not only bring endorse-

ment of Laguna's healthy heart initiative, but their own advocacy "carries enormous weight in our community."

Other events at Laguna-Acoma include Healthy Heart Bingo, for both school children and adults. "We give prizes focused on health, and hand out healthy snacks along with heart health fact sheets. I can't say enough about the marvelous support of NHLBI in encouraging us to take charge and engineer our own materials, and just take hold of our own destiny."

West Bay Pilipino Multi-Service Center joins NHLBI in making a commitment to improving the heart health of Filipinos in San Francisco.

Asian Americans and Pacific Islanders: New Vistas for Health

Among the fastest growing of American populations, Asian Americans and Pacific Islanders (AAPIs) present an array of specific health information needs, as well as needs for improved access to health services. Frequently immigrants or refugees, AAPIs migrate within the United States to settle in their own communities—centers of family, language, religion, and culture nestled around employment opportunities. These communities include some 30 different Asian and Pacific Island groups, but as the cultural imprints of these communities are diverse, their health concerns mirror those of many other populations. CVD, in particular, is the leading cause of death across all AAPI groups. Asian American men in general have higher stroke mortality rates than do white men. There are significant rates of hypertension among Filipinos, Japanese, and Southeast Asians. Obesity and diabetes, two key risk factors for CVD, are prevalent among Pacific Islanders—and the CVD death rate among Native Hawaiians is the highest in the nation.

Community-based health programs targeting various AAPI populations have been underway around the country for more than two decades. These pioneering programs have established precedents and opened doors, using a variety of outreach techniques from posters and billboards to small group classes and physician education. Along the way, a number of studies and surveys established that not only is CVD a significant burden among AAPI communities, but these communities are also underserved in health care funding, outreach, and services.

With research findings confirming unacceptable levels of CVD among AAPIs, the NHLBI partnered with several health and community organizations in mounting two major meetings in the late 1990s. Fifteen different AAPI groups were involved and a national consensus was reached to focus initial efforts toward specific groups with pressing needs for interventions, including culturally sensitive (and language-appropriate) printed materials, and outreach strategies designed to reach communities and individuals in effective ways. With efforts coalescing and growing in pilot communities throughout the United States, the NHLBI's powerful brand

Staff of the Ka'lli Community Center on Moloka'i, Hawaii.

of community empowerment in the service of health is on convincing display among Native Hawaiians, on the island of Moloka'i, often referred to as the "last Hawaiian island." With a population of nearly 7,000—more than half of who are Native Hawaiian—Molaka'i has the largest proportion of Native Hawaiians throughout the islands that make up the State of Hawaii.

Still largely rural and relatively untouched by urban development, the residents of Moloka'i have worked to retain Native Hawaiian customs and language. But Moloka'i also has one of the highest unemployment rates in the State, accompanied by both a lack of access to health care services and a low percentage of people and families taking advantage of available health care services.

Recommendations from a workshop cosponsored by NHLBI and Moloka'i General Hospital reflected the community's belief that solutions lay in two related directions: community mobilization and community outreach. Local leaders wanted both outreach and mobilization geared toward prevention rather than, in the words of Judy Mikami, R.N., NHLBI project director on Moloka'i, "trying to address problems after the damage is done."

The NHLBI is partnering with Lamalama Ka'Ili Community Health Center to develop a healthy heart curriculum to be used by *kupuna* in elementary schools. Kupuna are the elders of Native Hawaiian culture, respected sources of knowledge and wisdom, leaders and spiritual guides who serve—by long tradition—as facilitators, counselors, and advocates. "A big piece of all this," according to Ms. Mikami, "is the cultural aspect, which hinges on the vital endorsement of the kupuna." "We want to bring the kupuna into the schools as heart health educators, teaching our elementary kids. The influence of the kupuna will interweave values and localize this program in such a way as to substantially increase its relevance for the children and the families they carry the message home to."

Ms. Mikami enlisted a local graphics designer to create materials for the elementary children who are the project's primary target audience. These materials feature Hawaiian children, words from the Hawaiian language, and pictures of locally produced foods. "Our designer is already one of our success stories," says Ms. Mikami. "She had no health background before working with us, but after designing these materials she reported watching her food labels very carefully for fat and caloric content!" Another partner is a cultural specialist that Ms. Mikami has asked to name the Moloka'i project—in Hawaiian. "Soon we'll be rechristening our project with a name or title in the Hawaiian language."

The Moloka'i heart health curriculum includes an instructional section, which is a "script" for the kupuna to use in bringing the message to the classrooms of Moloka'i, as well as colorful activity sheets for the children to use that review the heart health message. A version of the kupuna-led heart health program will be offered entirely in the Hawaiian language, in the Hawaiian immersion program in one of the Moloka'i elementary schools.

Preliminary discussions have been held with the kupuna leadership, according to Ms. Mikami, and draft materials have been reviewed. Initial responses from the kupuna were quite positive and supportive, and Ms. Mikami has been asked to present the project to the entire Moloka'i kupuna group. "The kupuna will be our community health advocates in this process," says Ms. Mikami. "They are respected by everybody, throughout the community. Their involvement, and enthusiasm, will bring great legitimacy to this effort, and we can utilize this powerful link between old and young, between wisdom earned and those who are learning new things every day. The heart health message has never had such powerful friends as the kupuna of Moloka'i."

Putting the Squeeze on High Blood Pressure

On Molaka'i the path of education, involvement, and inspiration moves from seniors to school-aged children. Another new NHLBI collaboration also uses an intergenerational approach by educating middle schoolers to become heart health advocates for their parents and grandparents.

"Putting the Squeeze on High Blood Pressure" is an NHLBI partnership with the SPRY (Setting Priorities for Retirement Years) Foundation and the OASIS Institute, a nonprofit organization that manages senior centers throughout the nation. Pilot tested in St. Louis, Missouri, Indianapolis, Indiana, and Akron, Ohio, the school-based curriculum is aimed at middle school children (ages 11-13). Promoting prevention and control of hypertension through increased awareness of the problem and its contributing risk factors, the curriculum's outreach component sends children home to interview parents and grandparents about risk factors and family histories for high blood pressure. Children will also measure blood pressures within their families and help parents and grandparents design family hypertension plans.

With children serving as the emissaries of the heart health message in the "Putting the Squeeze on High Blood Pressure" program, older adults are the recipients of the message's benefits, encouraging lifestyle

An Indianapolis student demonstrates the use of a digital blood pressure monitor.

changes along with better adherence to already existing diet, activity, and medication regimens. The program also performs a critical task: bringing awareness of heart health concerns into the center of American lives by involving all ages.

In a related program that also uses "Squeeze" materials, a hypertension module will be offered to seniors as part of the OASIS "HealthStages" program. Presented in senior centers, the module moves seniors from an awareness stage to a self-management stage. OASIS has established partnerships with local clinics, hospitals, and health care centers (with staff from these partner organizations routinely involved in "HealthStages" implementation). The OASIS presentations will focus on intergenerational workshops in which children and older adults team to learn more about risks and prevention of high blood pressure.

Converging at the Point of Health: African Americans in Baltimore

Seniors are using their inherent experience and legitimacy for intergenerational heart health education in rural Hawaii. Children are serving a similar role in the SPRY and OASIS efforts in the Midwest. Hispanic and American Indian and Alaska Native communities have tailored the concept of lay health workers to respond to local needs, sharing the same basic manual, *Your Heart, Your Life*, as a point of departure. Aspects of all these innovative tactics are coming to the fore in an extraordinary new partnership emerging in Baltimore, Maryland.

Carol Payne, M.S.N., enjoys the term "community-specific" in describing the Baltimore collaboration. As an operations specialist with the Baltimore Field Office of the U.S. Department of Housing and Urban Development (HUD), a role she assumed after 23 years as a nurse at Johns Hopkins, she knows well that the most successful educational and outreach programs are community-specific: designed for and targeted to the unique needs of specific communities.

"Among low-income families any health disparity is going to be exacerbated due to reduced access to resources, both knowledge and services," Ms. Payne says. "In public housing here in Baltimore City we work with a very discrete community, mostly African American, mostly low-income, mostly under-educated. Thinking about it, I realized that so many barriers and burdens in this community tend to converge around the point of health. A health promotion program that is truly community-specific—made for this place and engaging all residents at all ages—can achieve something truly meaningful."

Knowing that the African American communities of Baltimore suffer exceptionally high CVD mortality rates, Ms. Payne discussed heart health outreach in public housing with both her own supervisors at HUD as well as the Housing Authority of Baltimore City (HABC). This "was a chance to bring resources directly to public housing residents that are otherwise unavailable," Ms. Payne says. "Both my boss and the people at HABC agreed. Thus, the Baltimore City Cardiovascular Health Partnership (BCCHP), with core partners including HUD's Baltimore Field Office, HABC, the Public Health Program at Morgan State University, and the Baltimore City Department of Recreation and Parks was formed.

> Among the core partners, Morgan State University's Public Health Program is unique as a public health training program housed in a historically black university with a mission to train public health professionals for work in urban communities, and to specifically address minority health disparities. The Baltimore City Department of Recreation and Parks provides low or no-cost opportunities for Baltimore community members to become physically active, addressing another major factor in the community's cardiovascular health.

To increase the network of partners and create effective strategies for use among public housing residents, the BCCHP held a workshop in Baltimore in September 2001 with more than 70 representatives from health and social service organizations, the clergy, and public housing residents and resident leaders attending. Participants provided their knowledge, experience, and ideas on public education and media, the public housing community, involving public health students in health outreach activities, and sustaining broad collaborative partnerships on behalf of the larger effort.

Housing Authority of Baltimore City residents and staff leaders.

"The players and partners got solid information at the workshop," says Ms. Payne. "We heard the hard facts on CVD and the extent of the problem in the African American community. By the end of the day a roadmap was coming into focus to help us understand how we could move forward."

To garner further insights into the health and information needs of the public housing community, 12 discussion sessions were conducted with participants who spanned age and gender segments of the public housing population, including youth/adolescents (15-18 years), adult men and women (19-54 years), and senior men and women (55 years and above). The discussions focused on current health status, lifestyles, heart health knowledge, barriers to heart healthy lifestyles, and optimum ways to deliver and receive health information messages.

In 2002 the BCCHP's "Healthy Hearts in Housing" project was selected as one of the new NHLBI CVD EDUCs. Healthy Hearts in Housing is a 3-year project that creates a learning environment for community residents, offering programs that increase knowledge and skills, encouraging healthy food choices in grocery stores and fast food restaurants in public housing neighborhoods, and promoting improved nutrition and physical activity in schools. A major component of the project is selecting and training a cadre of public housing residents who are respected formal or informal community leaders to become cardiovascular community health workers (CHWs). *Your Heart, Your Life,* the NHLBI lay health advisor training product developed for Latino communities (and subsequently adapted by AI/AN communities), is being used as a curriculum model in Baltimore. An assessment of the major components of *Your Heart, Your Life* evaluated its relevance to African Americans, and helped create a new training manual for use by the CHWs of the Baltimore EDUC.

NHLBI believes the public housing outreach and education model being implemented in Baltimore has great potential for replication in public housing communities nationwide. With the outreach and education lessons learned from the Baltimore EDUC project, similar activities can be implemented in other public housing communities throughout the United States.

Ms. Payne agrees. "There's so much potential here," she says. "In creating this project we also build sustainability for the entire initiative—an effort that will not only last 3 years, but long past that time. This idea of heart health outreach in public housing marries two major goals, one being NHLBI's goal to address health disparities in minority communities. The other is HUD's goal toward family self-sufficiency and removal of barriers that impede that process. And the closer we can get to the community, the more we will involve them in every part of the process, and the more likely we are to see wonderful outcomes."


Hearts
Parks

Hearts n' Parks

Promoting Physical Activity and Heart Healthy Eating in America's Parks and Recreation Centers

If the driving premise of NHLBI's community-based initiatives pivots on engaging and inspiring communities at the local level, this theme resounds through an innovative partnership with the National Recreation and Park Association designed to reach Americans where they play—in our nation's parks and recreation centers.

Seventy-five percent of Americans live within a 2-mile walk of a public park. These facilities are widely accessible to individuals from culturally and socioeconomically diverse populations, as well as individuals with disabilities. With this in mind, Hearts N' Parks carries messages rooted in rigorous scientific research: exercise need not be either drudgery or dangerous to be effective, healthy eating need not be boring or unappealing, and good health can be achieved with an investment of as little as 30 minutes a day.

An Obesity Epidemic

Over the past two decades, the numbers of overweight children and adolescents has tripled to 15 percent or almost 9 million youth. And, the problem is beginning earlier in a child's life. Over 10 percent of younger preschool-aged children between ages 2 and 5 are overweight, up from 7 percent in 1994. In adults, nearly 65 percent or 122 million are considered overweight or obese. During the late 1990s obesity continued to increase dramatically for Americans of all ages and currently is at an all time high. Overweight and obesity acquired during childhood or adolescence often persists into adulthood, increasing the risk for chronic diseases later in life, including heart disease and stroke, diabetes, certain cancers, gallbladder disease, sleep disorders and osteoarthritis.

Hearts N' Parks is all about bringing science-based messages about

A Hearts N' Parks participant works out.

lifestyle choices to people—to help them achieve a healthy weight and reduce their risk for heart disease. In Hearts N' Parks programs, skills for incorporating healthy eating plans and regular physical activity into everyday life are taught as part of the programs offered by park and recreation departments. Programs may deal with nutrition and fitness, stress reduction or family life programs, walking clubs, cooking classes, and aerobic and swimming classes. And activities can be adapted for children, youth, adults, and seniors. Hearts N' Parks provides opportunities for community organizations to gain recognition for their commitment to healthy behaviors, as well as to develop productive partnerships to further enrich their activities.

Pilot Testing the Program

Hearts N' Parks was pilot tested in the summer of 1999 at 33 sites in 12 North Carolina communities involving more than 2,000 participants. Followup evaluation showed that participants retained information about heart healthy behaviors. Children reported learning new physical activities and improving their performance in others; seniors reported feeling healthier and experiencing less pain in their daily lives as a result of participation.

Two examples of the pilot program include the Albemarle Park and Recreation Department that teamed up with the local hospital, Stanley Memorial, to develop the "Walk About" program for adults in the community. Walks around the county were combined with health education, blood pressure and blood glucose screenings, stress management seminars, and strength training. And, the seniors "Walk for Life" program of the Mecklenburg County Park and Recreation Department teamed up with Presbyterian Hospital to offer a variety of health screenings. For the 2,000 youths involved in the Mecklenburg summer day camp programs, the department focused

on the health benefits of participating in lifelong sports like tennis and presentations on heart healthy eating. As a result of this program's overall success, nutrition classes are now being provided in local after-school programs.

Up to the Moment in the Nation's Recreation and Park Centers

Hearts N' Parks is now a fixture with magnet centers in 13 States and more than 50 communities nationwide. Through the work of recreation professionals as well as dedicated community volunteers, Hearts N' Parks is making a difference at a level where its critical health messages can be heard. In 2002, over 60 Hearts N' Parks programs were conducted and assessed; 32 programs were conducted for children, 8 for adolescents, and 26 for adults. The sites conducted an assessment of the participant's knowledge, behavior and intention for heart healthy eating and physical activity both before and after the programs. Children's scores increased significantly from pretest to post-test for heart healthy eating knowledge, behavior, and intention. For physical activity, the children "learned" or "got better at" at least five activities by the end of the program. Adolescents showed the most significant improvements in heart healthy eating behavior followed by intention. And, adults finished their programs with more knowledge about proper nutrition,

"...physical activity should be a regular part of your life, no matter who you are or what your age..."

overweight/obesity, physical activity, causes of high blood pressure, and how to control high cholesterol, than they had when they started. They were significantly more active and, on average, spent 8 fewer hours doing inactive things such as watching TV.

"I've been working with Hearts N' Parks as a registered dietitian," says Catherine Parker, M.S., R.D., Hearts N' Parks coordinator for Indiana. "We're promoting the idea that physical activity should be a regular part of your life, no matter who you are or what your age is. We certainly know that kids with asthma, for example, do not exercise like they should, and Hearts N' Parks is one way to reach out, to offer programs, and to generally get the word out. My work involves recruiting dietitians to work with one of the four Indiana Hearts N' Parks magnet centers in Bloomington, Gary, Lafayette, or South Bend.

A Hearts N' Parks event in Savannah, Georgia.

Baltimore participants warming up for National Senior Health and Fitness Day activities.

Hearts N' Parks activities in Lafayette, Indiana work to highlight the connection between a healthier lifestyle and all 17 of the city's parks. The Hearts N' Parks Recreation Day Camp launched in the summer of 2002 with a kick-off program featuring Lafayette's Mayor Dave Heath and Purdue University's women's basketball coach Kristy Curry, an event that brought focused media attention in newspapers and on television. With the support of partners like the local dairy council, Subway, and the Western Indiana Dietetic Association, children between the ages of 6 and 12 enjoyed camp activities that included supervised games and other physical activity for a minimum of 30 minutes each day, and went on field trips oriented around physical fitness. Campers also attended guest lectures that stressed the importance of heart healthy eating and making physical activity an everyday activity.

Meanwhile, on the Gulf Coast of Florida, children are being treated to other kinds of organized activities that underscore the importance of physical activity and healthy diets. According to Joan Byrne, M.A., C.P.R.P., recreation program manager for the City of Largo's Recreation, Parks, and Art Department, this summer's new Hearts N' Parks sports and wellness camp for kids "will really focus on diet and fitness." A related event offering a number of activities and events for children is the annual "Heart of Largo" festival. "We divide the city's main park into areas that represent different geographical parts of the United States," Ms. Byrne says. "This year the centerpiece of the festival is Hearts N' Parks—so for each part of the country that's represented we'll offer a signature physical activity." "For example," Ms. Byrne says, "the Northeast's signature

These Hearts N' Parks programs, and others like them in towns and cities across the nation, are changing the way Americans learn about physical activity and heart healthy lifestyles.

event is the Boston Marathon, so we'll have treadmills in place. Kids, along with their parents or their grandparents, can do a certain number of minutes on a treadmill and become an 'official' Boston Marathoner. The Pacific Northwest will be represented by a climbing wall, and a certain number of minutes on the wall will qualify a youngster as an 'official' rock climber."

Community health organizations have been enlisted for health fair activities, with booths for blood cholesterol and blood sugar screening, as well as printed information and direct advice from health professionals and nutritionists. "We're also preparing signs that will let people know how many calories they use in an hour of activity in that sport," Ms. Byrne says. The signs will be posted at tennis and basketball courts and at the head of walking trails, and will carry both the Hearts N' Parks logo along with the logo of the City of Largo. "All of this will tell the community," Ms. Byrne says, "that Largo, Florida is a Hearts N' Parks city."
Hearts N' Parks opportunities also abound for seniors. In South Bend, Indiana their kick-off last summer, called "Hooray for Gray," included a panoply of activities and entertainments to draw attention to Hearts N' Parks. The program went on to garner such popularity among South Bend's seniors that the city's Memorial Hospital partnered with the effort—committing 3 years' worth of financial support devoted to Hearts N' Parks activities. And members of Memorial's professional staff have given their time and expertise as blood pressure and blood sugar screeners as well as nutrition educators.

Meanwhile, some 700 miles south of South Bend in the moss-draped city of Savannah, Georgia, seniors are targeted in two "Golden Ager" programs. "We sponsor two programs for seniors," says Barry Baker, C.P.R.P., recreation services director for the City of Savannah's Leisure Services Bureau. "One group operates around a fitness schedule, working out on exercise machines, treadmills, and stationary bikes, and then they gather to walk around a lake in one of our parks. The other group combines movement and stretching, like Tai Chi and yoga, with walking. Partners include a local hospital and the city health department that provide educational materials. Our biggest Hearts N' Parks success, though, was our community fun walk. We convened at a larger park last spring, and offered free T-shirts and water bottles to the first 100 registrants. We opened up with a short program to warm everybody up—and, of course, that gave us a chance to introduce Hearts N' Parks and the campaign for healthier people. It was very successful. In fact, nothing we'd done drew as much media attention to either Hearts N' Parks or the heart healthy message as the fun walk. We plan to do two this year—in the spring and fall."

These Hearts N' Parks programs, and others like them in towns and cities across the nation, are changing the way Americans learn about physical activity and heart healthy lifestyles. Hearts N' Parks programs are framed in the context of leisure and fun, fueled by community spirit, and reach out to all citizens, no matter their age, ethnicity, race, age, gender, or level of ability. And Hearts N' Parks participants, be they recreation professionals, volunteers, or participants, are proving to be passionate advocates on behalf of heart health—demonstrating once again that empowering communities with knowledge and awareness offers untold potential for positive change.

A Breath of Fresh Air

The NHLBI Asthma Coalitions

In Arkansas, a school nurse answers students' questions about asthma.

Only a few years ago asthma was a relatively rare reason for individuals to see their doctor. Not so in 2003, as asthma has joined the nation's major health problems, affecting some 20 million people—nearly 6 million of whom are under the age of 18. By the mid-1990s, the U.S. had witnessed a 75 percent increase in asthma prevalence across the previous 15 years—startling rates that give cause for national concern. For children between the ages of 5 and 14 the prevalence of asthma rose by 74 percent, and it is currently estimated that nearly 9 percent of America's children now suffer with asthma.

Asthma is now responsible for some 500,000 hospital admissions annually, with a total cost burden estimated at $12 billion. People with asthma experience in excess of 100 *million* days of restricted activity every year—and the disease now accounts for 5,000 deaths annually, with mortality rates clustered among African Americans and the elderly.

NHLBI's National Asthma Education and Prevention Program (NAEPP) was initiated in March 1989 to address the growing problem of asthma in the United States. The goals of the NAEPP include, first and foremost, raising awareness among health professionals and the public that asthma is a chronic disease with a growing impact on all corners of American life.

Related NAEPP goals included acquainting health professionals, families, and the public with the symptoms of asthma. In realizing these goals through treatment and education programs, asthma control—and a reduction in morbidity and mortality—is encouraged through partnerships among individuals with asthma and their families, physicians, and other health professionals.

NAEPP works with a number of partners including major medical

Students "graduate" from an asthma education program on how to manage their asthma.

associations, universities, hospitals, voluntary health organizations, and other community programs to educate patients, health professionals, and the public, including the pivotal strategy of locally based asthma coalitions.

Creating a Coalition

Each local asthma coalition is a broad-based, multiple-organization partnership that links a number of stakeholders, such as public health departments, hospitals, volunteer organizations, professional or business associations, clinics and managed care organizations, schools, churches, local businesses, and recreational organizations. With the involvement of individuals with asthma and their families, health care providers, community leaders and elected officials—each coalition aims at a community commitment to give long-term focus to the management of asthma.

To assess program progress and impact, each coalition must also look to a set of measurable performance points, such as reduction in hospital admissions or in emergency department visits for asthma over designated time periods. Other concrete measures might include a reduction in missed school or workdays due to asthma flare-ups.

Seven such coalitions are now located throughout the United States, from the deep South to the Midwest to central California and the Pacific Northwest, in high-risk communities where asthma mortality falls in the top 15 percent of the nation. These initiatives use culturally specific, community-centered tactics such as local advisory boards, educational efforts, outreach and public awareness campaigns, media relations, and support to health care professionals, all tailored for optimum impact in the communities the coalitions serve.

Southeastern United States

George Rust, M.D., M.P.H., recalls the origins of what would become the Morehouse Safety-Net Practice Based Asthma Research

COMMUNITIES

Engaging a community's strengths reflects the NAEPP belief that coalitions are powerfully effective tools for change at the local level—bringing a sensitivity to community needs along with an understanding of how those needs must be met. In order to invest in the capacity of communities to be their own best helpers, the coalition concept pivots on education, targeting all levels of the involved community. From professional sessions for health care providers to school-based programs for children and teachers, to informational events for the general public, the organizing principles in implementing coalitions are rooted in education and communications.

Network, now centered at the Morehouse School of Medicine in Atlanta, Georgia. It was 9 years ago that a group of medical directors representing community health centers in the South approached him with an interest in new ways to improve quality and outcomes for their patients. "They wanted an academic partner to assist in this quest for change," Dr. Rust says, "but also to help with the tools of research that would verify and validate their efforts." Dr. Rust, deputy director of the National Center for Primary Care at the Morehouse School of Medicine and now a project investigator with the Morehouse Safety-Net project, was initially involved as a facilitator. "Our early conversations were all about what this partnership could do that would bring meaning to their communities," Dr. Rust says. "We began to talk about a focus area, and asthma kept coming to the surface."

Asthma, Dr. Rust points out, met a number of single-condition criteria around which very specific evaluations and targeted improvements in care could be made. "Asthma is a high-volume condition," Dr. Rust says. "It's the most common chronic disease in childhood, and it's a high-disparity condition with dramatically different outcomes for minority, low income, and underinsured populations. It's also a high-variance condition in that there is a significant gap between usual care and optimal care. We just knew we could do a better job."

The target population for this effort included community health center clinicians and asthma patients within the Southeast Regional Clinicians' Network (SERCN), more than a hundred Federally funded community and migrant health centers in eight southern states (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee). More than half of the SERCN patient population falls below the poverty level and 56 percent are represented by African American and Hispanic populations.

"At the outset," says Dr. Rust, "it was clear that community health centers in the Southeast could not implement national asthma guidelines due to an inability to provide basic tools of asthma care like peak flow meters and spacer devices. And the reasons these devices were unavailable wasn't just budgetary. There were administrative confusions and slow-downs, and many providers were simply overwhelmed by the numbers of patients presenting to their clinics. We documented all this, by way of creating a clinically focused strategy to bring health care providers appropriate training and resources, along with redesigned processes to impact health disparities and overall asthma morbidity in the region."

Virgil Murray is the Safety-Net research coordinator, overseeing implementation of asthma guidelines and resources in clinics participating as study sites in the program. "This coalition" he says, "has not only allowed very strong individual and cumulative evaluation and followup, but also enables our participating clinic sites to monitor their successes as they happen."

In launching the Safety-Net program, an initial sample of 32 potential clinic sites was selected. These were locations and communities Safety-Net directors and coordinators felt would not only offer an informative cross-section of clinic styles and

"An important point about our effort is that we're not just trying to push knowledge out of academia. We want to be a conduit for wisdom and experience coming back from the communities. And we want our health professionals and clinic staffs that are working out there on a daily basis to know their messages for us will be treated with integrity. We want to do our best to bring the word from the front lines of health care to the people who create guidelines and write national policy."

George Rust, M.D., M.P.H.
Project Investigator, Morehouse Safety-Net Practice Based Asthma Research Network

communities served, but also represented sites where the need was great. During the recruiting process, Safety-Net representatives in Atlanta made many phone calls to discuss the study and the benefits of developing broad-based coalitions in the interest of better health. "This was not prescriptive, though," says Mr. Murray. "We were not recruiting sites and then insisting their providers adhere to an ideal standard of care. The entire point was to learn more about how national guidelines might be tailored to fit specific communities. One of the benefits of the Safety-Net program has been incoming data on what kinds of influences—be they clinical, financial, social, or cultural—are impacting implementation of asthma protocols. And as we go forward we're learning how to address and surmount obstacles that are unique to specific communities."

The Safety-Net coalition enlisted 9 intervention sites and 12 control sites. "These are facilities that already do a lot with a little," Mr. Murray says. "We prepared a kind of digest of the asthma guidelines, and worked to tailor them to different clinics in different locations. And we told our partners that this entire effort was a collaboration—in other words, if they needed to vary how they achieved guideline compliance based on local needs or issues, they should do so."

The Safety-Net intervention provided not only tailored guidelines, but resources like spacer devices used in administering asthma medications, and peak flow meters that are not only diagnostic tools but encourage self-monitoring and self-management of asthma. The overall strategy focuses on two NAEPP goals: the diagnosis and management of asthma, and the prevention of recurrent exacerbations.

"Every study of asthma care clearly shows there's way too much one-time point-of-care intervention and not nearly enough education and preventive care that will substantially reduce morbidity and reduce both burdens of illness and cost," says Dr. Rust. "It's one thing to talk about translating research to clinical practice, but when you consider the next step, translating from academic-centered clinical care into real world clinics that are under-resourced and care for low-income populations—it's at this level where our great challenges and opportunities lie. Translating what research has taught us into practical, everyday applications is how we're going to make a difference and eliminate disparities in our health care system. And this, in a nutshell, is what the Morehouse Safety-Net project is all about."

Arkansas

"I attended a seminar sponsored by the Arkansas Asthma Coalition," says Kristy Summerhill, R.N., of Little Rock Children's Clinic, "and I learned how to perform a pulmonary function test (PFT) for the first time. Not only that—I learned how to interpret a PFT. And, believe me, this one fact alone has changed the way we work."

The lack of adequate medical care combined with poor access to medical services critically affect asthma morbidity in Arkansas, key factors that led to the initiation of an asthma coalition for the State, administered from the Arkansas Children's Hospital Research Institute in Little Rock. The program targets primary care providers and their staff, along with school nurses, particularly those serving rural and Medicaid populations. By raising awareness and promoting behavioral change in primary care providers, the ultimate target population—low-income, rural children—will benefit.

"I attended a second seminar put on by the asthma coalition," says Ms. Summerhill. "I've learned what to look for in identifying mild, moderate, or severe asthma. Here at the clinic I work with a nurse practitioner and we do the screenings and evaluate our findings. The seminars really brought me up to speed: they taught me about forced expiratory volumes and lung residuals and what significance these things have for our patients. Before this we referred every patient with even possible asthma to allergists. But after the seminars we've been able to bring these services back to the clinic. It's better for our patients in every way: better care, cheaper care, smarter care."

A clinic physician counsels her young patient about asthma.

Capitalizing on earlier work of the Arkansas Asthma Coalition, this stage of the effort evaluates the magnitude of asthma morbidity and mortality in Arkansas in developing strategies to promote best practices implementation among primary care providers, improving the health care for patients with asthma in the high-risk, rural areas that surround Little Rock.

Primary care providers, and nurses like Ms. Summerhill, are exposed to multifaceted asthma educational interventions that improve the diagnosis and management of asthma. Health care providers in high-risk communities were invited to attend continuing medical education (CME) sessions focusing on the assessment and treatment of asthma, as well as on skill-building

The lack of adequate medical care combined with poor access to medical services critically affect asthma morbidity in Arkansas...

techniques in managing, educating, and communicating with asthma patients. Clinic support staff received training on techniques for educating and managing patients with asthma. School nurses received training on establishing links with primary care providers, and how to identify and refer children with undiagnosed asthma to medical care.

All of this speaks to the first three goals of the NAEPP program: promoting asthma awareness, improving diagnosis and management of asthma, and reducing recurrence or worsening of asthma. Success is being measured using patient documentation in medical records and electronic databases. Investigators are looking for changes in practice patterns (e.g., documented management plans), prescription patterns (e.g., increased anti-inflammatory medications), and improved patient self-management. Ms. Summerhill says the help of the Arkansas Asthma Coalition "changed my practice. I became much more familiar with all the asthma medications, how they're used and why they're used. But it's more than just technical information. What I've learned—and been able to share with my colleagues—has made a very large difference in the services our clinic delivers." And in noting that the Little Rock Children's Clinic has been able to reduce paperwork, administrative time on the phone, and unnecessary patient referrals, Ms. Summerhill says that "our patients are much happier, too."

"It's interesting to note," Ms. Summerhill adds, "that one of the allergists in town is now sending pediatric patients to us to get preliminary PFTs done! The assistance of the Arkansas Asthma Coalition has made a world of difference for this clinic."

Indianapolis, Indiana

About 600 miles north of Little Rock, in Indianapolis, studies conducted in inner-city middle schools found a 20 percent prevalence rate of asthma. Preliminary research in those schools demonstrated the importance of targeting teachers and school staff to facilitate asthma-friendly school environments for children with asthma, and to provide classroom workshops that increase student awareness about asthma.

The Indianapolis coalition's portfolio includes comprehensive school staff training and followup, and consultation to facilitate asthma-friendly school environments along with an infrastructure for ongoing student asthma education programs. Asthma screening is provided in 13 Head Start sites, as well as parent education and Head Start case manager training.

COMMUNITIES

Based on the startling asthma prevalence rate of 20 percent in Indianapolis inner-city middle schools, the Indianapolis Asthma Community Development Group has expanded efforts in elementary and middle schools, along with Head Start programs that serve as core sites for multidimensional education and screening. With the American Lung Association also involved in the partnership, the program is administered through the Marion County health department (Health and Hospital Corporation of Marion County, Inc.) in Indianapolis, with project manager Catherine Parker, M.S., R.D., providing direction and strategic planning.

"When we first initiated this program," says Robin Costley, C.R.T., "we decided that kids are the best place to start with asthma education." Ms. Costley is the Indianapolis coalition's supervising asthma educator, coordinating Head Start activities, parent and staff education, and asthma screenings for all children participating in Head Start programs in Marion and surrounding counties. "We also do

"When we first initiated this program, we decided that kids are the best place to start with asthma education."

school workshops for children, parents, and teachers," Ms. Costley says. "I coordinate those as well, making sure we have properly trained educators available for the events."

Ms. Costley draws from a pool of 12 educators that include nurses and respiratory therapists from various hospitals and other local organizations, in support of the coalition's objectives that echo four major NAEPP goals: promoting asthma awareness, enhancing the diagnosis and management of asthma, and the implementation of community programs and policies that might contribute to a reduction in recurrences of asthma.

Head Start programs require regular physician visits, and the Indianapolis coalition has used that aspect of policy to link asthma screening and care to the publicly supported preschool programs. "We've developed a form that alerts a doctor or other health care provider to children who have screened positively to a simple set of questions. Head Start also requires an Asthma Action Plan for all their children with asthma, so we're getting 100 percent followup for our kids and a cooperative program we can feed into."

With this multitiered educational approach in action, community understanding of asthma has improved, leading to public and medical policy changes that will improve the overall diagnosis and management of children with asthma. Along the way, Ms. Parker, Ms. Costley, and their colleagues,

are marking success by documenting the increase in asthma-friendly policies and programs in schools, decreased school absenteeism from asthma, and increased awareness about asthma among groups targeted for education and training.

New York City

Emily DiMango, M.D., of the Columbia University Asthma Coalition (CUAC) in New York City points out that asthma among Latino populations in New York has often received less than adequate clinical attention over the last few years. This has been remedied through the efforts of CUAC, based at the Columbia University College of Physicians and Surgeons. "We're among the first initiatives in the New York City area to focus on and document the impact of asthma in the Latino community," says Dr. DiMango, whose program has brought new understandings of asthma's toll in lives and families to the predominantly Hispanic neighborhoods of Washington Heights, at the northern tip of Manhattan.

"Through our various interventions," Dr. DiMango says, "we've been able to demonstrate a 40 percent reduction in hospitalization rate in our catchment area." This achievement alone is remarkable, in view of CUAC documentation that showed a 15 percent prevalence rate among urban New York Latino communities, a rate similar to that of Harlem, where asthma abounds. "From the start," says Dr. DiMango, "CUAC was specifically tailored to inner-city, low-income populations with a large portion of non-English speaking individuals."

CUAC asthma poster.

As an investigational project, CUAC examined the use of a comprehensive, multidisciplinary approach to care in the clinic system of a major medical center in an urban area, along with culturally sensitive public awareness and community outreach campaigns. Emphasis was consistently placed on language-specific community outreach and public awareness campaigns to reduce asthma morbidity and mortality in the target communities.

"We wanted to reach the high-risk individuals by any means necessary," Dr. DiMango says. "We identified 'high-risk' as those individuals with frequent emergency department visits for asthma exacerbations, along with their families, primarily the mothers who often make decisions regarding health care or the need to seek help." The overall strategy included CUAC's link with two advisory boards and two major community partners that umbrella 75 smaller community groups, focusing on three major NAEPP goals, the promotion of asthma awareness along with improved diagnosis, management, and control of recurrence of asthma.

CUAC designed a community rollout that included enlisting high-risk patients into a culturally appropriate, multifaceted program for asthma management. The program incorporates appropriate medical care, asthma education, behavioral and social screening, environmental assessment, and referrals to appropriate social service agencies, built around bilingual asthma educators.

"Our asthma educators are individuals from within the community," says Dr. DiMango. "They present workshops, seminars, and small group sessions at clinics. They've

“Through our various interventions, we've been able to demonstrate a 40 percent reduction in hospitalization rate in our catchment area.”

done over 50 workshops at WIC (Women, Infants, and Children) Clinics in the neighborhood. We even did random street surveys over the last two summers, asking folks about their awareness of asthma—and found that awareness is on the rise. We’ve demonstrated improvement in what I call ‘Asthma IQ.’ More and more people in our target group know what asthma is and that it’s a significant community problem as well as a health concern.

Dr. DiMango says the CUAC asthma educators make home visits, too, discussing common asthma triggers in the family environment. “And we’ve partnered with the Columbia School of Nursing,” Dr. DiMango adds. “The school has a community outreach class that nursing students are required to take, and some of the students were interested in outreach and home visits. So our asthma educators now take student nurses along on their home visits, allowing us to extend our efforts to the education of new professionals. This benefit has proven to be typical of our work with asthma: there are unforeseen advantages, new opportunities, and new understandings. You can’t know how far you can go until you start.”

Fresno, California

The residents of the San Joaquin Valley in central California reside in a geographic area with some of the highest asthma mortality rates in the United States. Reaching a population particularly vulnerable to excess asthma morbidity due to large proportions of ethnic minorities—notably Hispanics and one of the nation's largest concentrations of Hmong—is a dynamic asthma coalition led by Robert Clegg, M.P.H., C.H.E.S. "Right out of the gate," Mr. Clegg says, "we recognized the needs of this community were both various and quite specific. Languages, cultures, beliefs...plus our people are spread over a lot of miles, from low-income farm workers living in camp settings, to our Southeast Asian populations."

One of the most successful approaches to getting the word out on asthma in this environment was through the medium of video. "Our video was a huge success," says Mr. Clegg, "and has been

San Joaquin Valley farm workers.

COMMUNITIES

Central California holds one of the nation's largest concentrations of ethnic Hmong—Southeast Asians from Thailand and Laos—where they face many of the same challenges as do other ethnic groups adjusting to a new home. "We've developed a couple of very successful programs centered around educational materials that target the Valley's Hmong residents," says Mr. Clegg. "We have an 'Asthma 101' binder in English, Spanish, and Hmong, which is a book of transparencies that can serve as a guide for workshop leaders, but also serves health care providers in educating their patients one-on-one or in small groups. Family members can use the binder equally well, as can self-care givers." 'Asthma 101' covers basic anatomy and function of the human lung, and illustrated steps to take if either you or a family member is experiencing an asthma attack.

Hmong–language asthma poster.

broadcast in North Carolina, Minnesota, and Alaska, as well as many times over right here at home." Premiering on public television in the greater Fresno area on July 20, 2002, the video is an hour-long program featuring Long Thao, M.D., the only Hmong-speaking physician in the Valley. "Dr. Thao served as our on-air medical consultant, fielding questions from both a live audience and call-ins, speaking in both English and Hmong." Also aired on radio, the program was broadcast once a week for a month.

"We also developed a four-color poster providing five simple steps on what you need to do in the event of an asthma attack," says Mr. Clegg, "and this has been adopted by the California School Nurses Association for use in the State's schools." A front-back design, the poster features English/Spanish on one side and English/Hmong on the reverse. In tandem with these materials, the coalition created laminated asthma medication posters that include all major asthma drugs now in routine use. "These posters are ideal for clinics and hospitals," according to Mr. Clegg. "They're available in both an 11- by 17-inch wall version and an 8½- by 11-inch hand-held edition. We've given out more than 3,000 of the medication posters. We have an order form that we leave at conferences, medical education events, and town meetings, and orders are brisk—approaching 10,000 orders filled so far."

A community needs assessment identified the primary need for this community to be a long-term, coordinated commitment to asthma control. The San Joaquin Valley Health Consortium asthma coalition has addressed that need by employing a multitiered community approach of mass media, health care provider training, and outreach to schools and other community organizations.

Mr. Clegg reports an array of specific activities, including a multicultural, multilingual mass media campaign of TV, radio, print and billboard in rural areas and farm labor camps; a media rally on World Asthma Day; ongoing asthma education and training for professionals and the public alike; representatives from schools, churches, and child care centers trained to implement asthma-friendly programs and policies.

"We've documented, right now, outreach to more than 33,000 people in the Valley," reports Mr. Clegg. "Our CME programs have reached over 500 health care professionals. We've educated over 4,000 parents of kids with asthma. Our school-based outreach now exceeds 8,000 children. And we get calls every day to offer presentations in the community—a sure sign we're having an impact."

The coalition's goal, according to Mr. Clegg, "is straightforward: we want to create partnerships that are self-sustaining and institutionalized within this community. Through implementation of the awareness strategies, media messages, and an increase in the number of community organizations actively involved in the coalition, we are making real headway against asthma-related morbidity and mortality."

Tacoma, Washington

"Our program is called Clean Air For Kids, and it's operated by the Tacoma-Pierce County Asthma Partnership," says Leanne Noren, program director. "One of the most outstanding aspects of this program is the partnerships we've forged throughout the county, with local academic and medical organizations. These partnerships have helped us sustain interest and bring validity to what we wanted to do—which is offer outreach to families—in their homes—where children with asthma live. In the low-income communities of Pierce County, even a health outreach worker at the door can be viewed as suspicious, so citing our partners and endorsers has helped a lot."

Industry in Tacoma, Washington.

"These partnerships have helped us sustain intertest and bring validity to what we wanted to do—which is to offer outreach to families—in their homes—where children with asthma live."

The Clean Air for Kids Coalition uses outreach workers and volunteers to implement a variety of services, including identifying high-risk individuals through documented visits to area hospitals and clinics and making outreach workers an integral part of the primary care team in the role of client advocates. The Coalition also encourages development of a school asthma management plan, and conducts a Home Environmental Assessment List (HEAL) to identify indoor air pollutants and then develop an action plan to alleviate the problems.

Additional activities include community asthma education programs for children and families, and continuing education and other opportunities for health care providers based on national asthma guidelines. "When we launched we anticipated that we would interact with 60 families over the 3-year course of the project," says Ms. Noren. "But we found that families only need us for about 4 or 5 months, and then they've got what they need—our followup evaluations found that families and kids do much better with that level of

COMMUNITIES

Clean Air for Kids

Clean Air for Kids is reaching children and adults of multicultural populations, many non-English speaking, who reside in four high-risk communities in Pierce County where there is significant poverty, unemployment, substandard housing, and general distress. Leaky roofs, poor ventilation, mold and mildew, and increased exposure to second-hand smoke place an already demographically high-risk population at even greater risk for development or exacerbation of asthma. The project draws upon outreach workers and volunteers to deliver an intervention that integrates environmental education strategies with access to proper medical care as a means of strengthening medical management of asthma.

outreach and support. The upshot is that we've been able to serve more than twice the number of families as we originally projected—we've hit 158. We have been much more successful than we ever imagined."

Chicago, Illinois

Jura Scharf, executive director of the Chicago Asthma Consortium, remembers the year 1995. This was when members of the Chicago-area chapter of the American Lung Association (ALA), in discussion with the leadership of the American College of Chest Physicians (ACCP), registered alarm at the precipitous rise of asthma in the Chicago metropolitan area. "That alarm was quite particularly noted on behalf of our African American communities," Ms. Scharf says. "Those communities were experiencing an asthma mortality rate four-fold higher than African American communities in other major cities." Responding to this challenge brought the formation of an ALA-ACCP action partnership, which became the nucleus of what was to become the Chicago Asthma Consortium (CAC).

Employing the Community Organization Theory, the program utilizes the "community activation" approach, which emphasizes the involvement and coordination of major community institutions to mobilize community leadership and resources for health promotion and

Ultimately, the CAC was integral in pushing through a law that now extends asthma medication privileges to all students in all schools, public and private, throughout the state of Illinois.

COMMUNITIES

From the beginning, the CAC hoped to create a legacy—the possibility that a defined period of grant support would build a capacity for continuation, for sustaining asthma outreach efforts across the many years needed to effect lasting change in public health. Ms. Scharf says that a "very large benefit of the CAC is in teaching all of us about the value of coalition and collaboration. The CAC brought people together and helped them see things in new ways. As a result of these relationships, people have been very successful in bringing more and new grants and contracts to the city in support of various aspects of asthma intervention. At this point we can look at new referral systems, coalitions down to the neighborhood level, partnerships that involve schools, churches, and businesses, all in the service of outreach activities that echo Chicago's long tradition of community-based activity. We now have an entire network that continues to build and connect."

to improve public awareness of health issues. It also employs the Social Marketing Theory, which guides the design and distribution of the asthma awareness message, whether presented in print, electronic, or face-to-face formats. Communities have participated in public asthma awareness events, self-assessed asthma risks and knowledge, and identified community asthma leaders whose influence endorsed and promoted the development of local asthma networks.

"An achievement we look on with particular pride is our work with the Chicago public schools," Ms. Scharf says, "where the CAC has led an effort to change school medication policy. Children are now allowed to carry their emergency asthma medications with them—rather than the older system where medications were locked in the nurse's office." Designed to reduce uncontrolled asthma exacerbations when children do not receive medication in a timely manner, the policy change was in no way a simple or straightforward undertaking. Ms. Scharf describes the enlisting of partners and allies, advocating with school and community leaders, and making numerous presentations about the rising prevalence of asthma. Ultimately, the CAC was integral in pushing through a law that now extends asthma medication privileges to all students in all schools, public and private, throughout the State of Illinois.

In focusing on two NAEPP goals—promoting asthma awareness and implementing community asthma programs and policies—formative evaluation preceded and directed CAC program efforts. Along the way, the CAC developed its message on many fronts, including issues of medication adherence, clinical care and professional education, and referral networks.

"When we discovered that the rate of refill on asthma medications was quite poor, we went to both Medicare and private pharmaceutical distributors," says Ms. Scharf. "In creating partnerships with these agencies, the CAC was able to review and track asthma medication prescribing and dispensing patterns, and see where in the city efforts needed to be emphasized or redoubled. We can now happily report a statistically significant improvement in medication refills in metropolitan Chicago over the rest of the State. Hand in hand with compliance improvement, the CAC has also created model collaborations of hospital emergency departments and outpatient clinics to improve processes of care and reduce asthma recurrence and clinic visits."

For More Information

The NHLBI Health Information Center is a service of the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health. The NHLBI Health Information Center provides information to health professionals, patients, and the public about the treatment, diagnosis, and prevention of heart, lung, and blood diseases. For more information, contact:

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