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It's a fat, fat world

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First Word

Obesity: the big challenge

This issue of *Perspectives in Health* is the last of the Pan American Health Organization's centennial year, and it is perhaps appropriate that we close 2002 with a bang rather than a whimper. Toward that end, we have chosen one of the humorously provocative works of Colombian artist Fernando Botero to grace the magazine's cover. It does not imply that obesity, the subject of our cover story, is a laughing matter. It does suggest that it is fast on its way to becoming—as Botero seems to see it—an integral part of the human condition.

Obesity has reached global epidemic proportions. What was once the problem of rich countries now afflicts developing countries as well. Experts point out that in poorer countries, obesity often coexists with malnutrition, and like malnutrition, it should be seen as a nutritional illness—certainly not simply as too much of a good thing.

While obesity has been a public health concern in the richer countries for several decades, the messages that have been sent to counter it have generally put the onus on the individual. Now advocates for control of the epidemic are telling us—quite convincingly—that much of the problem is due to our changing culture and environment. With globalization and urbanization have come vast food surpluses, mass-marketing of energy-dense foods, increasingly sedentary work and ubiquitous labor-saving devices. Under these conditions, it may be easier to become obese than not.

Medical research has devoted considerable attention to obesity, yet the underlying biological mechanisms are still not fully understood. Best estimates of its heritability range from 15 percent to 33 percent. Recent advances in genetic research include the identification of the protein leptin, which helps regulate appetite and metabolism, and in October of this year, the discovery of "HOB1," a gene said by its discoverers to be one of perhaps "10 to 12 genes that will prove to be important in obesity and metabolism." These developments raise hope for new gene-based drug treatments of the disease. But genetics does not go far in explaining the rapid emergence of obesity as a worldwide phenomenon. Genes do not change over a decade, but over thousands or millions of years.

So what is the role of public health? There is no single answer. Prevention programs, particularly those targeting children and schools, are important in developed and developing countries, since childhood obesity is on the rise in both. Walmir Coutinho, head of the Latin American Consensus on Obesity, notes that research shows that "in transitional societies, income tends to be a risk factor for obesity, but education tends to be protective." He argues that in developing countries, education is the key to controlling the epidemic.

Others say new dietary recommendations are badly needed to take account of recent findings in nutrition and obesity research. We now know, for example, that not all carbohydrates are equal; complex carbohydrates, like those in whole grains, are harder for the body to turn into fat than the simple carbohydrates found in refined foods. Nor are all fats the same: Saturated fats and transfatty acids contribute to heart disease, while oils from fish, nuts, and other plant products protect the heart. How fat consumption per se affects appetite and metabolism is a matter of considerable debate.

Another intriguing issue of particular interest to the Americas was raised recently by an international expert group convened by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). It pointed out that using standard weight-for-age indicators can lead to "gross underestimation" of obesity in populations with high rates of growth stunting. In Latin America, some 90 million people are beneficiaries of food programs, but by more appropriate measures, only 10 million of these may be truly underweight. The observation adds further complexity to an already complicated problem.

The importance of tackling the global obesity epidemic was duly noted at this year's World Health Assembly in Geneva, where WHO's member countries called on the director-general to develop a global strategy on diet, physical activity and health. This is a daunting challenge as posed by the international obesity experts. Countering the larger forces at work—"obesogenic environments" and "nutrition transitions"—is a huge task that may require, as our cover story suggests, a rethinking of what constitutes a better standard of living. Millions of the world's people need to learn that some of the things they take for granted or even strive for in modern life are not at all good for their health.

Donna Eberwine
Editor

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contents

Features

Columns

Front cover:
Obesity used to be seen as a problem of the world's most affluent countries, but no longer. Increasingly this nutritional disease affects both the developed and the developing world. Advocates are calling for stronger efforts to curb the epidemic and head off its enormous costs to global public health.

Painting by Fernando Botero

photo © Powys Devhurst

▲ Dominica's centenarians include the world's oldest living person, Elizabeth "Ma Pampo" Israel, pictured here two years ago when she was "only" 125.

by Tony Deyal

Living to 100

It's no secret. You take fresh foods, clean water, pure air and lots of exercise. You add low stress, a loving family and strong belief in God. For Dominica's centenarians, it all adds up to a longer and healthier life.

photo © Tony Deyal

If Christopher Columbus ever returned to the Americas, the only country he would likely recognize is the little Caribbean island of Dominica. Given its inhabitants' reputation for longevity, he might even remember some of the islanders from his first visit. Out of a population of 70,000, 21 Dominicans are more than 100 years old.

Dominica's centenarians include the world's oldest living human, Elizabeth "Ma Pampo" Israel, profiled two years ago (when she was "only" 125) in *Time* magazine. "The daughter of a slave, she started working on a plantation at the age of 25 and retired 79 years later," *Time* reported. "She ascribes her longevity to her diet—including lots of dumplings and bush tea."

Time doesn't mention it, but Ma Pampo married in 1922 and had one son, who died at the age of 30. That was well over half a century ago. She has one grandson, who is alive and well somewhere in the United Kingdom.

Ma Pampo herself is well cared for today, and her home in Glanvillia, outside the town of Portsmouth, is clean and comfortable, if small. During a recent visit, she confirmed how hard she had to work as a child, picking coconuts and limes for a starting salary of two cents per day.

Earlier this year, because of an ingrown toenail that became infected, Ma Pampo had her right leg amputated below the knee. It healed easily and without further complications, but the ordeal left her generally bedridden. At almost the same time, her next-door neighbor and good friend of many, many years, Rose Peters, died at the age of 118. Yet Ma Pampo refuses to give up. She remains curious, lively and communicative, with a strong sense of humor. Her zest for living is evident, as is the simplicity of her life and her lack of interest in worldly goods.

Fluent in the native Kwiyol (a French patois) and Kokoy (an English-based pidgin), in addition to standard English, Ma Pampo ascribes her long life to hard work and good food. She shuns anything canned or processed. While in the hospital earlier this year—one of only three visits in her entire life to the Dominican capital of Roseau—she threw away a peanut butter sandwich, saying she would not eat anything that was not "natural." She talks glowingly of the beneficial effects of dumplings (seasoned boiled flour chunks flavored with broth); river crayfish and crabs; tuna, mahi-mahi and mackerel from the sea; and local tubers: cassava, dasheen, eddoes, yams and tannia.

Ma Pampo still loves to listen to the Kokoy programs on the radio and the Franco-African rhythms and melodies that dominate the airwaves. When I asked her what I could do to live to be her age, she laughed heartily and thought for a moment. Then she said that I should eat good food. She added, however, that food is now so polluted with fertilizer that it is difficult to trust. Then she commended me to God.

Wigg John Francis, 103, attributes his long life to 'good drink, good food' and God. Ma Daroux, 101, credits 'healthy food,' a loving family and also God.

photos © Tony Deyal

An island apart

The terrain, flora and fauna of Dominica are unforgettable. Except for the few villages that hug the coast and mountainsides, the island has remained unspoiled and little changed during the 500 years since Columbus first visited the Caribbean. Twenty-nine miles long and 16 miles wide, it is still a land of cloud-capped volcanic mountains and lush tropical rainforests; steep valleys with tangled lianas and tumbling, crystal-clear streams; rainbow-hued flowers ranging from magenta ginger lilies to brilliant orange heliconiae, bright pink antirrhinums to rich purple orchids; iridescent butterflies that look like flying bits of gemstone-studded brocade; and birds of all sizes, colors and plumage that coo, squawk, shrill and sing, including the national icon, the Sisserou parrot, immortalized on the Dominican flag. The country has 12 large waterfalls, six varieties of tropical rainforest and more than 365 rivers, one for each day of the year. There are hot sulfur springs and cold-water streams almost side by side. It is said that you can catch a fish in one river and cook it in the other.

Tourism minister Charles Savarin attributes Dominicans' longevity to the island's pristine environment. "Many people still drink water straight from the rivers," he says. "The water is naturally filtered and entirely without chemicals. There are no industrial plants emptying into the streams and the sea. Most of the country is heavily forested so that we may have more oxygen here than anywhere else."

He points out that when today's centenarians were growing up, the island was without chemicals, fertilizers or motor vehicles. People had to walk or row their small boats long distances. Everyone had to work hard for a living, sowing and reaping their own crops as well as working on sugar plantations.

Until two years ago, Wigg John Francis, who is officially 103, tended his garden and raked his own grass. He lives in the agricultural community of Dublanc, on Dominica's west coast. He questions the official date of birth derived from his baptismal records, saying he is really 107.

Francis remembers being adopted as a boy by his aunt in the capital. He never attended school; instead, he worked as a

farmer, fisherman and sometimes gravedigger. Until two years ago, he actively supervised younger gravediggers, showing them who was buried where and which plots were still available. I asked him to what he owed his long life, and he replied sharply in patois, "Ask God. It is He who gives me sustenance." He then added, "*Bien bue, bien mange.*" Good drink. Good food. Natural and without chemicals, a mixture of tubers and fish. Francis was not averse to alcohol, and he smoked cigarettes, although he quit some years ago. He was accustomed to exertion, sometimes rowing the 30-mile round trip to Roseau or the 10 miles to church and back with his family. He believes in bush tea and bush medicine—holistic, herbal healing. His biggest problem is "old age": His eyesight is fading and his head hurts. Yet he walks unaided, albeit slowly, and washes his own face.

Francis says he has lived a good life "as God says." He is lovingly and well cared for by his granddaughter, Theresa Jubenot, and her husband Honoré. He is clean and clear-witted. When I asked him what I could do to live to his age, he looked me up and down and then laughed in my face.

In contrast, Professor Gerald Grell, dean of the Portsmouth Campus of Ross University, an offshore medical school based in Dominica, took me quite seriously. He explained that having so many centenarians (30 per 100,000, 66 percent higher than the United States' rate of 18 per 100,000) is highly unusual and that he is supervising a research project to determine what the causes might be. While he is not certain about the specific reasons for there being more female (17) than male (four) centenarians in Dominica, he notes that the evidence so far points to the environment as the major factor in all cases. None of the centenarians are directly related, so there is no common genetic factor. They live in different communities, so their longevity is not localized. He believes that what the centenarians have in common is that they all worked very hard during their lives, ate the basic organic foods and fresh fish that abound in Dominica, and breathed the oxygen-rich atmosphere that encapsulates the country like a bubble of good health.

Grell also points to three other important factors. The first is that Dominicans live as extended families in small, relatively isolated, semi-self-sufficient communities. They share a strong respect for the elderly; people are proud of their parents and grandparents and take care of them when they are ill or need help. The second factor is a deeply rooted belief in God found commonly in Dominica's almost universally Roman Catholic population. Religion, not merely attendance at church on Sundays, is a way of life. The third is that Dominicans live relatively simple, stress-free lives.

Health to the people

"This is a country where we relax and where we are not afraid to laugh at ourselves," says Minister of Health Herbert Sabaroche, who hails from the small fishing village of Bioche on the west coast and is related to Wigg John Francis. "It is interesting that the 21 persons who are over 100 years old are not restricted to any one geographical area of Dominica but are spread throughout the country.

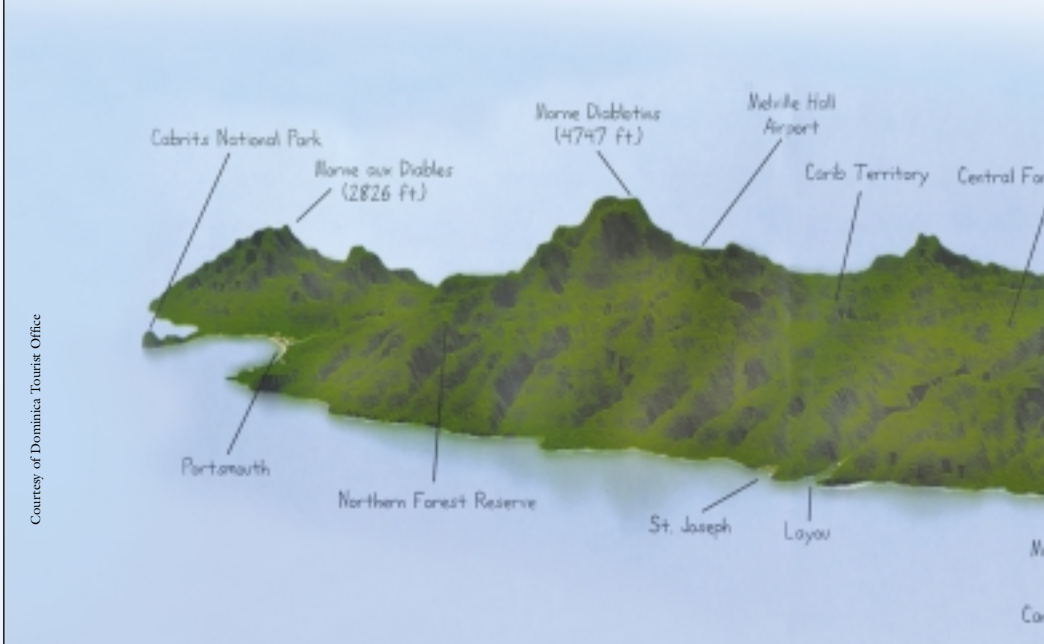
"This means the whole of Dominica has an environment conducive to long life. Fresh foods, clean water, pure air, a high level of relaxation, good family support, belief in God, low stress, and lots of exercise—that is what life in Dominica is all about."

He adds one more element to the mix of contributing factors. Sabaroche stresses health care in Dominica. "Our primary health care system is one of the oldest in the region and one of the best or most comprehensive," he says. "It is decentralized, and instead of waiting for people to come to us, we take health to them. We reach out to the people."

One example that stands out, and which is in its own way as significant as Ma Pampo's achievement, is the story of Augista Mathilde Daroux, known as "Ma Daroux." Diagnosed with hypertension in the early 1970s, she has survived and in fact thrived, and now at 101 walks unaided, sleeps soundly and has perfect bladder control. Grell describes this as unprecedented and noteworthy as a health phenomenon.

"Normally people with hypertension are not expected to live so long. However, Ma Daroux has been faithfully taking her prescribed medication, and the combination of hard work, good food, clean air and a supportive environment has contributed to her being so fit mentally and physically at the age of 101."

Ma Daroux lives on a hilltop overlooking the coastal village of Petit Savane. Next to her house is a spring used by villagers for washing. Her small and neatly kept home is fenced by bay trees, whose exotic fragrance mixes with that of the flowers she has planted in her garden. Born on New Year's Day, 1901, she went to school



Courtesy of Dominica Tourist Office

at the age of 12. Her parents paid her teacher with vegetables and fish. She left school early and went to work. She had eight children. She attributes her long life to healthy food: lots of cane juice, honey, arrowroot, fish, river crabs, prawns and crayfish. She is cared for by her children, who speak of her with love and pride.

Perhaps because she is not of the television generation, Ma Daroux goes to sleep early and wakes early, as do other centenarians. She also drinks herbal tea and is convinced of the virtue of bush medicine for routine ailments. She also is very religious.

As is Louisa Joseph, 103, whom I visited at Vielle Case, high in the mountains, where at some points the road is level with the housetops. Joseph was half-asleep, clutching her chaplet (rosary beads) when I arrived at her home. Clean, tidy and smiling, she attributed her long life to hard work and good food. She spoke of having a good marriage and sharing with her neighbors. She said quietly, "I lived like God says. Whatever I had, everybody got." When I asked her what I should do to reach her age, she too laughed.

Elizah "Ma Bradley" Phillip, 114, of the village of Wesley on the east coast, has lost most of her hearing so was unable to address the same question. However, her 87-year-old daughter and caretaker did the laughing for her.

Antonia Fevrier, 104, of the village of Grandbay at the southernmost point of the island, was having breakfast when I arrived. She likes malted drinks and sweet biscuits. She ignored my question, perhaps deeming it either unanswerable or irrelevant.

But Ma Daroux was different. When I asked her what to do to live as long as she has, she said, "Eat lots of *callaloo*"—a spinach-based soup common in the Caribbean. Deep green in color, it has an unprepossessing appearance that contrasts strongly with its scrumptious taste. It is made from the leaves of the dasheen plant, seasoned with garlic and onions, and contains black pepper leaves together with crab, fish or salted meat.

Other people have laughingly suggested that I use *crapaud* water, a soup made from frog meat that is an island delicacy and, together with fried frogs' legs, part of the island's French culinary heritage. I have passed the message on to my wife, who has a vested interest in my longevity. Now I plan to drink my *callaloo* and *crapaud* water, and on my 100th birthday to go to Dominica and wait for Columbus to return—or, for those who believe in reincarnation, perhaps to return myself as Columbus.

Tony Deyal, a former consultant to the Pan American Health Organization and now a newspaper columnist, was last seen in Dominica toasting PAHO's centennial with a glass of cane juice.

Courtesy of Dominica Tourist Office

Have bounty, will share

Tourism is the fastest-growing industry in the world, and the most important in most of the Caribbean, particularly now that the banana industry has gone into decline. Dominica, which has been pursuing ecotourism, is working to develop a health tourism project in collaboration with the Pan American Health Organization (PAHO), which has spearheaded a Tourism and Health Project in the Caribbean region.

Both health minister Herbert Sabaroche and tourism minister Charles Savarin of Dominica are optimistic about the success of such an approach. Says Sabaroche: "Health tourism is a challenge for the future. We see it as a unique opportunity to capitalize on our natural resources and to ensure that we retain and maintain those resources, the most important of which are our people and our unique way of life. We have no objections to sharing these with other people and to allowing those whose health can benefit from being here in Dominica to use the services and to contribute to their improvement."

Savarin has pointed out one practical difficulty that tourism faces in Dominica. "Many people mistake us for the Dominican Republic," he says. "This creates a marketing problem. I would like people to remember that Dominica is the world's healthiest island and that we are well served with good connections by airlines....With PAHO's help, and with our already established health care system, we are well placed to merge health and tourism for the benefit of our country and our visitors."

Globesity:

The Crisis of Growing Proportions

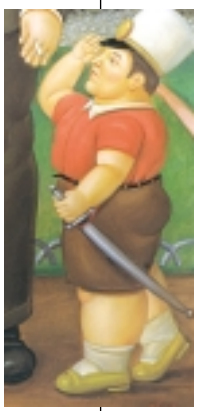
by Donna Eberwine

You're in your car at the intersection of University Ave. and N. Mesa in El Paso, Texas, less than a mile from the U.S.-Mexico border. Suddenly your stomach growls, your mouth waters and you feel a strong craving for something to eat. No problem. Just a block up the street is Taco Bell, where this week's special is the 'Extreme Quesadilla' for only $1.24. There's a drive-through window, so you don't even have to get out of your car.

▲ In El Paso, Texas, USA, as in a growing number of cities around the world, modern living conditions may make it easier to become obese than not.

photos by Herminio Oliveira

If you're not in the mood for Mexican, no matter. There are four or five convenience stores within half a mile offering everything from doughnuts to 44-ounce soft drinks and one-third-pound hot dogs, all at bargain prices. A bit farther, but only a couple of minutes by car, are Arby's, Burger King, Jack-in-the-Box, McDonald's and Wendy's—not to mention Pizza Pro's, Peking Garden, Wienerschnitzel and Rib Hut.



For Jose Roman, a 72-year-old pediatrician who has practiced for four decades in this west central El Paso neighborhood, the culinary abundance is much more a bane than a blessing. "Every three blocks you see restaurants advertising large portions at low prices," he says. "Two burgers for 99 cents." He and others are convinced it's one of the reasons El Pasoans are getting fatter every year.

The trend is a disturbing one, and it is readily evident in Roman's young, mostly Mexican-American patients. The number of obese children in his practice has increased dramatically, he says, particularly in the last five to 10 years. "Probably 20 to 30 percent of the children I see each month are *significantly* overweight."

The problem is even worse among adults, according to Muriel Hall, executive director of the El Paso Diabetes Association. "El Paso stands above many other communities in being chunky," she says.

In fact, however, El Paso is not alone in having what public health advocates describe as an epidemic of obesity. In the United States as a whole, the latest data show that two out of three adults are overweight, and nearly one in three is obese. What is more alarming, similar trends are emerging around the world, in both developed and developing regions. In countries as diverse as the Czech Republic, Finland, Germany, Kuwait and Jamaica, at least half the population is overweight and one in five is obese.

The health impact of this obesity pandemic can be seen most clearly in fast-rising rates of Type 2 diabetes, for which obesity is the main known risk factor. According to the Brussels-based International Diabetes Federation, the number of diabetics worldwide has grown to more than 150 million, a fivefold increase since 1985.

Obesity is also known to put people at higher risk of other serious health problems, including cardiovascular disease, arthritis, gallbladder and kidney disease, and cancers of the breast, colon, uterus, esophagus and kidneys. In the United States alone the direct health care costs of obesity now exceed $100 billion a year, according to the American Obesity Association.

Add to this the social stigma, psychological distress and economic discrimination often suffered by the obese, and the costs are heavy in terms of both health and quality of life.

"The combined impact of obesity and weight-related illness is in fact as great as if not greater than tobacco," says Neville Rigby, director of policy and public affairs for the London-based International Obesity Task Force. "We need to approach the obesity issue with the same degree of concern and vigor."

A global race

The spread of the obesity epidemic to a growing number of countries and the rapid rates of increase in recent years are what have public health advocates worried. Last year the Washington-based WorldWatch Institute reported that, for the first time in history, estimates of the number of overweight people in the world rival estimates of those who are malnourished. In its 2002 *World Health Report*, the World Health Organization (WHO) ranked obesity among the top 10 risks to human health worldwide.

The epidemic has been well documented and extensively studied in the United States, where as early as the 1960s nearly half of Americans were overweight and more than 13 percent were obese. Today some 64 percent of U.S. adults are overweight and 30.5 percent are obese. That is double the obesity rate of two decades earlier and one-third higher than just 10 years ago.

But the United States is not even the leader in the global race to national corpulence. That distinction is held by Samoa, where two-thirds of all women and half of men are obese. In the Americas, Canada trails somewhat behind the United States, with 50 percent of adults overweight and 13.4 percent obese. But data from Argentina, Colombia, Mexico, Paraguay, Peru and Uruguay show more than half of these countries' populations are overweight, and more than 15 percent are obese.

Even more disturbing, the trend is growing among the Region's children. Twice as many U.S. children are overweight now than were two decades ago. In Chile, Mexico and Peru, an alarming one in four 4- to 10-year-olds is overweight.

Walmir Coutinho, professor of endocrinology at the Catholic University of Rio de Janeiro and coordinator of the Latin American Consensus on Obesity, notes that rates of childhood obesity increased 66 percent in the United States during the last two decades, but a whopping 240 percent during the same period in Brazil.

"Obesity and overweight are increasing much faster in Latin America than in North America or Europe," he says. "They are fast replacing hunger and malnutrition as contributors to mortality."

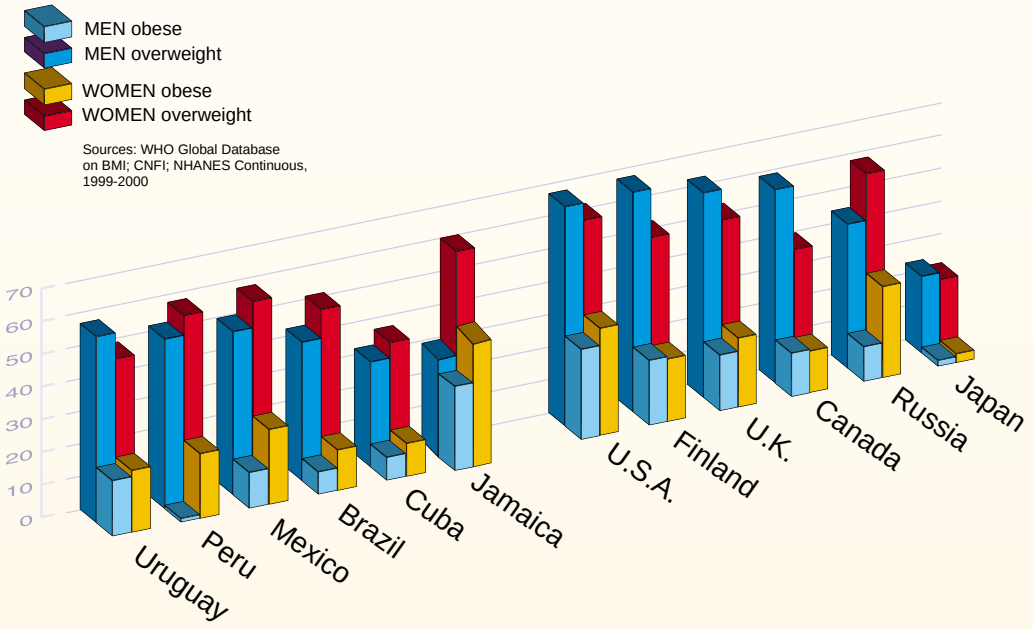
The growing body of public health literature on the "globesity" epidemic places the bulk of the blame not on individuals but on globalization and development, with poverty as an exacerbating factor.

In what experts term the "nutrition transition," societies everywhere are moving away from traditional local foods and methods of preparation to mass-produced processed foods that are generally higher in fat and calories and lower in fiber and micronutrients, particularly iron, iodine and vitamin A.

The issue is not just junk food. A large part of the problem is economic. In general, mass-marketed foods are getting cheaper, particularly in urban areas, while fresh foods are becoming more expensive.

"In Latin America, maybe you can go to the jungle and pick your own fruit, but in the city, in supermarkets, fruits and vegetables are expensive," says Enrique Jacoby, an expert on obesity at the Pan American Health Organization (PAHO). Flipping through pages of country data, he observes: "In lots of countries, you can see the increases in consumption of cooking oils, sugar, sweetened drinks and cereals,

Trends and subtrends



While obesity is on the rise globally, its underlying dynamics vary across regions. In poor countries people tend to get fatter as their incomes rise, while in developed and transitional economies, higher income correlates with slimmer shapes.

Studies on the relationship between poverty and overweight have identified a number of socioeconomic factors at work. Some have linked low stature and growth stunting due to fetal and early malnutrition with obesity in later life. Cultural factors are also important: many minority and lower-income groups associate fatness with prosperity, a perception not shared in better off and better educated sectors of society.

Gender differences further complicate the picture. In general, women tend to have higher rates of obesity than men. But rates of overweight are higher for men in developed countries yet higher for women in developing ones. Moreover, in many developing countries, the relationship between socioeconomic status and obesity is positive for men but negative for women.

primarily rice and noodles, while consumption of fruits, vegetables and legumes is going down. Having a big wallet makes a difference. The poor are forced by their limited resources to eat less healthy foods."

Along with this nutrition transition, improvements in technology and the evolution of the modern metropolis have created an "obesogenic environment" in which new patterns of work, transportation and leisure have people around the world leading less active, more sedentary lives.

"Even lower income groups have growing access to conveniences such as television, telephones and cars," says Coutinho. "These predispose people to sedentary habits and are leading to dramatic changes in lifestyle that contribute to the problem."

North meets South

In El Paso, a culturally blended city of 560,000, the largely Mexican-American population is experiencing its own nutrition and lifestyle transitions that in some ways reflect trends in both the developed and the developing world. The results are high rates of overweight and obesity, along with negative health consequences such as diabetes.

Beatriz Apodaca, a diabetes expert at PAHO's U.S.-Mexico Border Office in El Paso, is collecting local data on overweight and obesity as part of a study of diabetes in the border region. "We know the rate of diabetes in El Paso is 12.9 percent," she says. "That's twice as high as the national U.S. average. Our data on overweight and obesity are not yet complete, but we believe the rates are quite high."

Darryl Williams, director of the Office of Border Health at Texas Tech University Health Sciences Center, is one of a dedicated group of local academics and health professionals who are studying the city's weight-related health problems and ways to address them. Williams attributes part of the obesity epidemic to the possibility that "Mexican-Americans may have a genetic predisposition." He cites the so-called "thrifty gene" theory, which holds that some groups have an inherited tendency toward weight conservation that in earlier contexts increased the chances of survival, but that in modern urban settings leads to high rates of obesity.

But cultural and other exogenous factors seem to be at least as, if not more, important. Williams notes that the average El Pasoan's daily diet is high in whole milk, soft drinks and refined carbohydrates such as white rice and tortillas, but notably low in fruits and vegetables. Indeed, at least one study shows the city as having one of the lowest levels of fruit and vegetable consumption in the United States.

Williams also faults restaurant and fast food and what he terms "shifts in portion size…it used to be a small Coke, now it's 48 ounces for the same amount of money." The technique, known as "value marketing," is used to increase sales by making consumers think they're getting a bargain. Even worse, says Williams, are El Paso's favorite all-you-can-eat buffet restaurants, where patrons inevitably "feel obliged to get their money's worth."

Coupled with El Pasoans' poor eating habits are what Williams and others see as the increasingly sedentary lifestyles of most of the city's residents. In a study of childhood obesity in the region, Williams says he expected to find higher rates among children living in El Paso's poorer neighborhoods, the *colonias*, since overweight and obesity are inversely related to income in most of the United States. Contrary to expectations, he found no significant differences between the *colonias* and better-off sectors. What did appear as significant was the age at which obesity kicked in.

"In both boys and girls, when they tracked weight and growth, it was normal up to age 7, then there was a problem with obesity. What is clear is that something happens when they go to school," he says.

Williams believes that a key factor may be the "change in activity levels at school." He notes that physical education, once emphasized in U.S. public schools, is now given lower priority. Moreover, "when kids go home, they're not very active either. It's all TV watching and video game playing." Especially in the *colonias*, says Williams, there are few parks or other facilities that promote physical activity. And with summer high temperatures in the mid-90s, air conditioning keeps many El Pasoans—adults and children alike—indoors.

Juan Carlos Zevallos, director of the Diabetes Research Center at Texas Tech University Health Sciences Center, cites

Overweight or obese?

Obesity is most often measured using the Body Mass Index, which is equal to a person's weight in kilograms divided by height in meters squared. A BMI of 18.5 to 24.9 is considered normal, 25 to 29.9 is overweight only, and over 30 is obese. Using BMI, an adult who is 6 feet tall and weighs 225 pounds would be considered obese, while someone 5 ft. 6 in. and 155 pounds would be just overweight. (A separate set of standards is used to measure overweight in children.)

A shortcoming of BMI is that it fails to distinguish between excess fat and muscle. Bodybuilders have relatively high BMIs, for example, even when their proportion of body fat is normal. In addition, some population groups have more or less body fat at a given BMI. Australian aborigines and many Asians tend to have higher-than-healthy body fat at normal BMI measures, while Polynesians have somewhat lower body fat than other populations at the same BMI. In general, however, BMI correlates closely with more direct measures of body fat and is a strong predictor of health problems associated with obesity.

similar factors. His recent research on childhood and adolescent obesity and diabetes on both sides of the border found that more than half of the region's children watch three or more hours of television daily, while a quarter watch upwards of four hours. "And that's not including Nintendo," he adds.

Aggravating the situation, particularly for adults, is the fact that El Paso, like many other cities, is largely a product of unplanned urban sprawl. Walking and biking are simply not practical ways of getting around. Moreover, "our public transportation is terrible," says Zevallos. "You need a car—you need your *own* car."

Zevallos and other members of El Paso's public health community are doing more than studying the city's obesity problem. They are working to curb the trends through health promotion efforts, some of the most promising of them aimed at children.

One of these is an obesity prevention program known as El Paso CATCH (Coordinated Approach to Child Health), based on a national program of the same acronym. Funded with $5.6 million in grants from the local Paso del Norte Health Foundation, the program promotes active lifestyles and healthy eating among schoolchildren and has been implemented in more than 100 El Paso–area elementary schools.

Karen Coleman, a specialist in childhood obesity and assistant professor of health psychology at the University of Texas at El Paso, evaluated the program and considers it a success. In its first year, CATCH managed to boost moderate-to-vigorous physical activity more than 50 percent and reduce the fat content of school lunches to less than 30 percent of total calories. Now rates of overweight in El Paso CATCH schools are lower than those recently reported among Mexican-American children at the national level.

"I think dealing with it in children is the key," says Zevallos, "because one of the greatest risk factors for being an overweight adult is being an overweight adolescent. But you can't just deal with the kids; you have to deal with the mindset of the families and the schools."

Pediatrician Jose Roman agrees. He notes that in El Paso's schools, many cafeteria workers, teachers and administrative staff are themselves overweight or obese. They also tend to be staunch members of the "clean-plate club."

"School lunch programs are designed to get kids to eat more, not to eat healthily," says Roman. "They're told, 'you have to eat all your food.' We're pushing food on children."

"Unlike tobacco, food itself is not a poison—it's just a question of quality and the amount consumed," says PAHO's Jacoby. He and other obesity experts want the food industry to deliver healthier options, not just to niche markets, but to all consumers.

Roman notes that El Paso parents tend to be even more difficult targets than schools. Most Hispanics grow up believing that fat children are healthy children, he says. "The more they eat, the better the parents feel. Parents are afraid to limit what their children eat."

Beyond the soft touch

While prevention programs such as those in El Paso hold promise, they may not be enough to counter the fast-growing worldwide epidemic of obesity. Rigby, of the International Obesity Task Force, says the "soft approach of more education about food at school and encouraging exercise" is no longer enough. "We need to tackle the root causes with ambitious initiatives to counteract the huge changes we've seen in recent years."

A key target of this newer get-tough approach is the multibillion-dollar global food industry. Critics argue that the industry's advertising, marketing and pricing practices actively promote excessive consumption of high-calorie, low-quality foods. To counter the trends, Rigby and others are urging such measures as requiring nutritional information on restaurant and fast-food menus. They also favor restrictions on advertising, particularly ads aimed at children, and using public pressure to make the food industry "part of the solution."

"In Europe, McDonald's stopped using transfatty acids years ago because Europeans wouldn't stand for it," says PAHO's Jacoby. "Now, in the U.S. they've promised to do the same."

Others have called for placing so-called "fat" or "Twinkie" taxes on unhealthy foods and using the revenues for counter-advertising or subsidies on healthier foods. Supporters cite studies showing that people will opt for healthier foods over unhealthy ones when the price differential is significant.

Advocates are pursuing these issues at both the national and global levels, working to incorporate them, for example, into international trade talks under the auspices of the World Trade Organization. The parallels with anti-tobacco efforts are clear, but many hope the multinational food industry will be more cooperative toward such efforts than the tobacco industry has been.

"Unlike tobacco, food itself is not a poison," notes Jacoby. "It's just a question of quality and the amount that's consumed. So there is real potential for cooperation with industry."

Rigby agrees: "The idea of public health collaboration with the food industry isn't really new. We've had iodine-enriched salt, for example, and some sectors of the food industry have espoused the idea of sending out public health messages as part of their product marketing….But a large part of the processed foods we eat today are still part of the problem and not yet part of the solution. So we are challenging the food industry to deliver truly healthy options—not just to niche markets, but to all consumers."

At least as difficult a challenge is finding ways to address the other side of the obesity equation: energy expenditure through physical activity.

"There are already too many megacities and urban environments where the car is king and it is impossible for people to get around easily on foot or bicycle," says Rigby. "We need to create physical town environments that sustain and support good health." This means incorporating the "healthy cities" approach into urban planning, promoting parks, bike paths and pedestrian malls; restraining suburban sprawl; increasing funding for public transportation; and making car use less attractive and less necessary.

Getting countries around the world to sign onto such an ambitious agenda may require a rethinking of what constitutes a higher standard of living, akin to the increasing acceptance of the idea that economic development must be socially and environmentally sustainable.

"It is tempting for developing countries to believe that much of the environmental change that produces the huge public health burden of obesity is inevitable," says Rigby. "It is our job to persuade them that they can act now to steer a different course."

Donna Eberwine is editor of Perspectives in Health.

Upping the odds

Obesity significantly increases the risk of a number of health problems, some of them debilitating or even life-threatening.

- **Obese individuals have a 50–100 percent increased risk of death from all causes compared with people of normal weight. Among young adults (25- to 35-year-olds), severe obesity increases the risk of death by a factor of 12.**
- **Obese people have twice the risk of coronary heart disease, high blood pressure, arthritis of the knees, and gout.**
- **Obesity doubles the risk of breast, endometrial and colon cancer, as well as hormone abnormalities, fertility problems and fetal defects.**
- **The risk of diabetes and gallbladder disease is three times greater for obese people.**

Distribution of body fat and levels of physical activity have been shown to have their own independent impacts on health.

- **Deep abdominal fat—as opposed to fat concentrated in the hips, buttocks and thighs—adds to the risk of both heart disease and diabetes.**
- **Physical inactivity, independent of body fat, increases the risk of diabetes, heart attacks and strokes, high blood pressure and cancers of the cervix, ovaries, vagina and colon.**

Haiti

Dark, Light and Color

Photos by Alex Morel
Text by Marisol Bello

In small villages and shantytowns throughout Haiti, children can scrawl their names in shaky script.

Teenagers more accustomed to speaking Creole impress visitors with greetings in English and Spanish.

Adults find light industrial work in an arid landscape that has traditionally offered little else but subsistence farming.

This Caribbean nation of 8 million is more commonly known as the poorest country in the Western Hemisphere than as the world's first black independent republic.

Yet throughout the island a sense of community thrives, cultural expression flourishes and the resilience of the Haitian people can be seen in efforts large and small to change things for the better.

Fewer than three out of 10 working-age Haitians are formally employed. Yet women and men—and many children—work as manual laborers, microproducers and market vendors in the informal sector.

Still, most in this predominantly agrarian society continue to work as farmers, tilling their land or that of large landowners for beans, vegetables or fruit. Others find work fishing the Caribbean waters or weaving straw baskets and other wares by hand.

They sell their products at sidewalk and roadside markets in both congested urban areas and harder-to-reach country villages.

Throughout Haiti, extended families pool their resources, and neighbors help one another when they can. The strong sense of community is rooted in history, in feelings of pride about being Haitian and in a deep desire for self-sufficiency despite economic hardship.

Haitians' proud identity explodes in cultural expression, which abounds throughout the island, from the colorful, pulsating energy of Carnival to complex mythical canvasses painted by local artists.

Through art, music and dance, Haitians tell their family stories, share the plight of their countrymen and recount their nation's turbulent history.

Carnival is the island's most anticipated cultural event. It begins each year on the Saturday before the start of Lent and continues for four joyously manic days.

The drum beat of zouk, a mixture of African and French Creole music, fills the air while the streets teem with floats and dancing revelers bedecked in bright masks and audacious costumes.

Haiti's color, music and pageantry belie its hard economic and social realities.

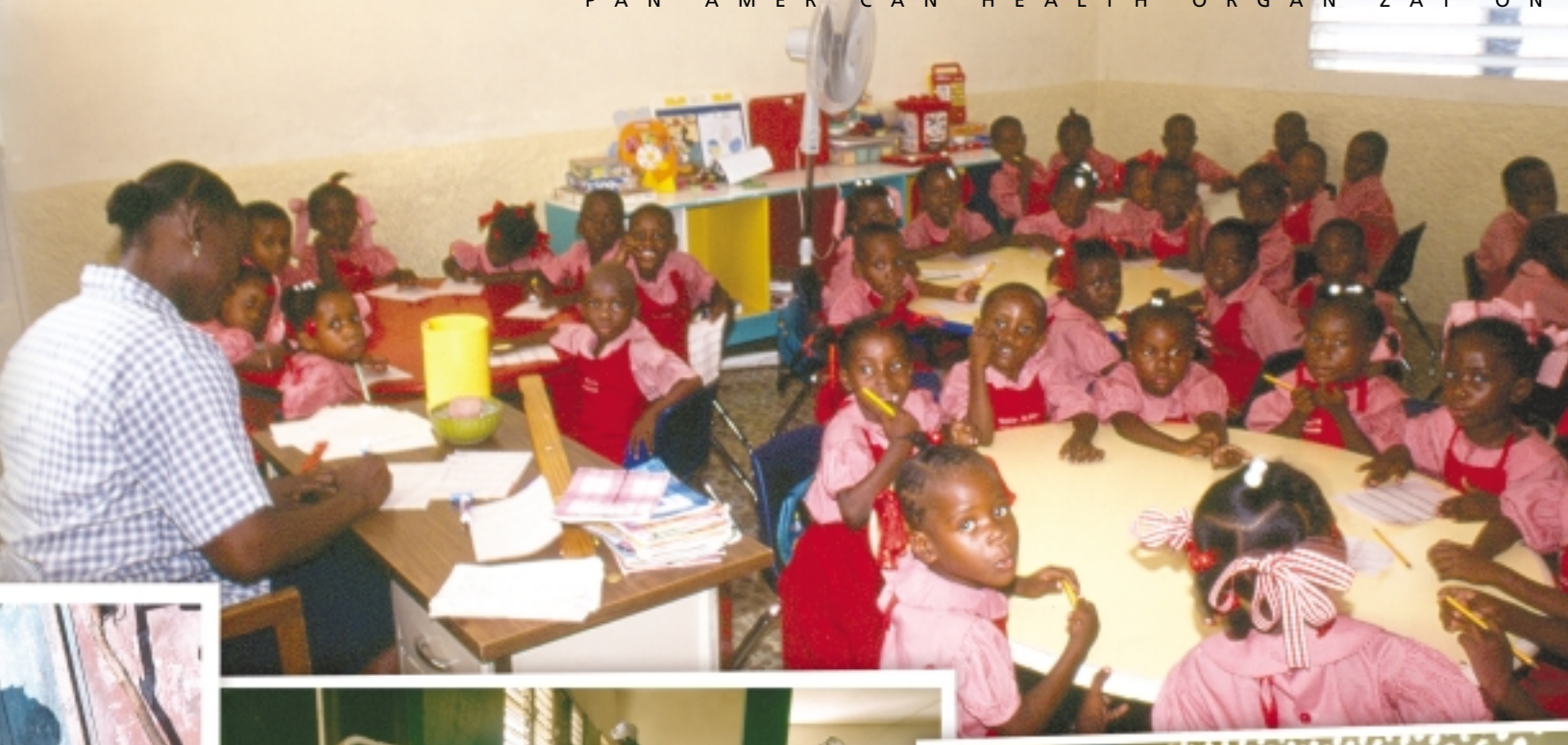
- For every 1,000 babies born, 80 will not live to see their first birthdays.
- About a third of all deaths in the country occur among children under 5.
- For every 100,000 pregnant women, 530 die from complications.
- Some 30,000 Haitians died of AIDS in 2001, and a quarter-million are believed to be living with HIV.

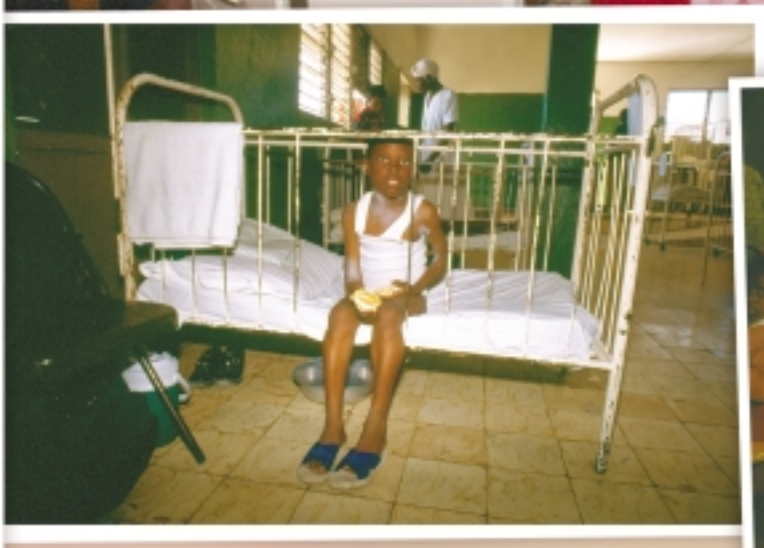
Families endure these hardships with resignation. But many find reason to hope and to act.

In small villages along the western edge of the island, residents work alongside missionaries digging wells to provide a source of clean water for bathing, washing clothes, cooking and drinking—an alternative to streams and rivers that carry disease-causing pathogens.

In the Artibonite River Valley in central Haiti, the staff from the local hospital teaches families about birth control, parenting, sexually transmitted diseases and the importance of vaccinations.

Public health workers and volunteers from the Albert Schweitzer Hospital fan out over the rugged countryside, tracking every child and adult, immunizing them, weighing them and monitoring them for signs of tuberculosis and other contagious diseases.





Such efforts have helped reduce neonatal tetanus—a leading killer in Haiti—in parts of the Artibonite River Valley, and have helped lower the area's infant and maternal mortality rates.

From efforts to educate parents has grown a renewed emphasis on educating the country's children. Throughout Haiti, school enrollment is steadily increasing.

Each day, classrooms fill with wide-eyed youngsters dressed in tidy uniforms, eager to learn the alphabet, read a favorite children's story and perhaps be the first in their families to learn how to write their names.

Alex Morel is a New York–based photographer who lived in Haiti during 2001–02. He took these photos on assignment for the Pan American Health Organization's country office in Port-au-Prince.

Marisol Bello is a special projects reporter for the Pittsburgh Tribune-Review *in Pennsylvania, USA. She won the U.S. award in the Pan American Health Organization's centennial journalism contest for her special report "Haiti, Mission of Hope."*

Don Francisco

The host of 'Giant Saturday' is Spanish-language television's best-known entertainer, a household name throughout the hemisphere.

But Don Francisco is also the founding father of Chile's telethon for handicapped children and a 2002 PAHO Champion of Health of the Americas.

Gives Back

As the cameras roll, Don Francisco walks onto the brightly lit set in his Miami studio, breaks into song, then teases his guests and banters with his star-struck audience. Wearing a shiny suit and, frequently, a ridiculous hat, the best-known celebrity in the Spanish-speaking Americas appears weekly in the homes of millions of viewers, just as he has for the past 40 years.

by Bryna Brennan

Sábado Gigante ("Giant Saturday") is television's longest-running variety show with a single host, Don Francisco. He fills his stage most of the time with comedy, songs, scantily clad women, and amateur and animal acts. But he also uses his pulpit to plead for a more compassionate and equitable world. He called on viewers to donate assistance to those injured or left homeless by Hurricane Andrew in 1992, and following the terrorist attacks of September 11, 2001, he denounced violence and hate in favor of peace and tolerance.

But Don Francisco's most outstanding good works have been dedicated to health. His annual telethon for handicapped children, launched in 1978, has raised some $160 million and constructed six hospitals in Chile. In 2000, he was elected national vice-president of the United States' Muscular Dystrophy Association for his telethon work. He has filmed public service announcements for the Pan American Health Organization (PAHO) supporting blood donation, childhood vaccines, prenatal care and mental health, and denouncing drug abuse. In 2002, PAHO named him a Champion of Health of the Americas in recognition of his contributions to public health. Pope John Paul II has bestowed the *Bene Merenti* medal on him, the first non-Catholic to be so honored. He also serves as a special goodwill ambassador for UNICEF.

A familiar chord

Offstage and out of the limelight, Don Francisco is Mario Kreutzberger, a 62-year-old Chilean, the son of German-Jewish immigrants. In his small office at Univision headquarters in Miami, the entertainer is affable yet also shy, studied, even pensive—almost the opposite of his television personality. Kreutzberger shows a much more serious side, explaining his efforts to promote health as a way of giving something back to the people who over the years have been so good to him.

Part of his motivation is that you can't take it with you. "It's logical that those who have more should have the social consciousness to share with those who have

less, considering that no matter how much money you have you can't avoid death," he says. He also believes that celebrity should be put to good use. "We communicators should act as a bridge between those who have and those we can help to have a better life."

With viewers in at least 30 countries, Kreutzberger reaches millions during his three-hour Spanish-language show, which is long by U.S. standards but a good deal shorter than its previous seven-hour incarnation in Chile. His broadcasts from Miami have helped create a sense of Hispanic community that links U.S. immigrants with people in their home countries of Latin America and even Spain.

grandfather with diabetes, high blood pressure, a thyroid condition and arthritis. "Health has no price," he says. But an acknowledged $18,000 facelift and chin reduction have helped to keep him looking as good as he seems to feel.

Tirelessly Kreutzberger tapes commercial messages between show takes. He strides to a different studio to tape the public service announcements for PAHO's initiative on safe blood donations. He reads the scripts quickly. He does a single practice run. And he rattles off each of seven 30-second messages flawlessly. Each delivery is utterly convincing, as if in each one, Don Francisco is making a very personal plea.

grant couple who had fled Nazi Germany only two years earlier. His father, a tailor, was a concentration-camp survivor and his mother an aspiring opera singer whom the Nazis never allowed to perform. Kreutzberger believes her own frustrated ambitions led her to encourage her son's talent. She had him study "every musical instrument under the sun," and when he failed to master a single one, she persuaded him to sing instead. At 10, little Mario performed Chilean folk songs at school until his older schoolmates shamed him with taunts, and he vowed to himself never to sing again.

A shy and retiring boy, Kreutzberger had infrequent but scarring childhood en-

As a communicator, Don Francisco believes it is his responsibility to promote positive messages: love and tolerance, the value of family, perseverance and hard work, a sense of community and cultural pride.

Kreutzberger's popularity and broad reach have led to interviews on his show with both presidential candidates in the last U.S. election, along with an engraved star on Hollywood's Walk of Fame, a special issue in *People* magazine's Spanish edition and an audience with Pope John Paul II.

Virtually all of today's most noted Hispanic celebrities have appeared on the show, including Marc Anthony, Jon Secada, Ricky Martin, Cristina Saralegui and Gloria Estefan. Indeed, *Sábado Gigante* has helped launch a significant number of Hispanic entertainers' careers.

In his Univision studio, Kreutzberger moves quickly, with a level of energy one might not expect from a middle-aged

That, he concedes, is his greatest talent and appeal. "I know I strike a familiar chord with people that allows them to feel like my very close personal friends, so much so that they are willing to wait two or three hours to meet me," he writes in his recently published autobiography, *Don Francisco: Life, Camera, Action!*

Kreutzberger's personal story, written with a ghostwriter's help, is that of a bullied child with an artistic bent who went on to achieve stardom through hard work, a love of his medium and a determination not to miss any opportunities that presented themselves.

Born in Talca, Chile, in 1940, he was the first child of a German-Jewish immi-

counters with anti-Semitism, including a beating by a gang of older boys when he was 14. He credits support from his school principal in the aftermath of the incident for helping him to overcome his fears and make the "180-degree shift"to the center-stage personality he shows today.

When Kreutzberger was 16, his first drama teacher taught him how to tell jokes, dance, act and sing, and "never to improvise." He dropped out of high school and at 19 traveled to New York City for training to help him run the family garment business. But when he saw his first television in a hotel room there, it was "love at first sight." He returned to Chile, found a way to get on TV and launched a

40-year career that would more than answer his father's early concern: "How do you think he's going to support a family by being a circus clown?"

Timed to coincide with *Sábado Gigante*'s 40th anniversary, Kreutzberger's book describes his pioneering work on Chilean TV, his launching of the Chilean telethon, his move to Miami in 1986 and the quite serious ups and downs that accompanied his rise to international stardom. Mauricio Montaldo, his ghostwriter, writes in the book's introduction that Kreutzberger "wanted to share his experiences because he was convinced that six months after he was gone, no one would remember him." True to his style, Kreutzberger is donating part of the book's royalties to Padres Contra El Cancer, a California-based group that helps children with cancer.

Kreutzberger is clearly proudest of the more serious uses to which he has put his fame and fortune. In his book, he describes how his television career in Chile led him to establish the telethon for handicapped children.

"Despite such a long string of successes, something was still making me uneasy, and in 1977 that uneasiness made me feel a strong need to give something back to the community," he writes. Taking inspiration from comedian Jerry Lewis's annual muscular dystrophy telethon, Kreutzberger gathered the stars and held the first show, "Let's Make the Miracle Happen." The premier broadcast raised $2.5 million and so gratified Kreutzberger's urge to "give back" that he soon committed himself to making it an annual event.

For Kreutzberger, the telethon has been a personal victory. Each year more funds are collected than the year before. His face brightens when he speaks about it in person, and he writes eloquently about it in his book:

Twenty-two years later, the Telethon, which has no political orientation and is based on solidarity and emotion, has produced a cultural transformation that has brought dignity and respect to the handicapped and their rights.…There is a lot to be done. We will have to grow and incorporate new rehabilitation and communication technologies. The world will change, we'll more or less become technocrats, we'll have less space, more or less material possessions; but a child's smile will always be the same and hope will always survive as a value that can't be bought or sold on any stock market.

Today one of Kreutzberger's biggest challenges is to keep up with the International Organization of Telethon Institutions, or ORITEL, a foundation that unites 13 countries in the yearly telethon. The idea, he explains, is to raise funds to train doctors via the Internet and allow them to exchange information on ways to treat children with nerve, muscle and skeletal disabilities. In 2001, Kreutzberger signed a memorandum of understanding with the Inter-American Development Bank to expand the work being done on disabilities by Latin American and Caribbean institutions.

Kreutzberger believes in what he terms "the communicator's responsibility," that is, to use his talent for relating to people to promote positive messages, including love, tolerance, the value of family, a sense of community, Hispanic cultural pride, personal perseverance and honest hard work.

He also believes that ordinary people can and should help each other, and that unity brings results. He returns to the topic of the telethon, saying that if every person gave a dollar, those who gave it wouldn't miss it. On the other hand, that money could be turned into "smiles, hopes, a lot of things."

"At times, this cold, impersonal world of money can be turned into something very positive," says Don Francisco. "But for this you need the help of others. This is power."

The entertainer's best talent and greatest appeal is his ability to relate to ordinary men and women.

'I know I strike a familiar chord with people that allows them to feel like my very close personal friends.'

Bryna Brennan is chief of the Office of Public Information at the Pan American Health Organization in Washington, D.C.

PAHO

photo © Keith Dannemiller

A Marriage of Medicines

by Owain Johnson

In Venezuela's Amazon, Western and traditional medical practitioners are learning to work together to meet the health needs of indigenous communities.

It's a 20-minute journey in a motorized dugout canoe from the Venezuelan mainland to Isla Ratón, a tree-lined island that lies midstream in the Orinoco River, the natural border between Venezuela and Colombia. Even though the island-town is the seat of government for the indigenous-run Venezuelan municipality of Autana, its streets are temporarily deserted while everyone takes shelter from the scorching noontime sun.

Isla Ratón will be home for the next 10 months to Jenny García, a newly qualified Venezuelan doctor who came to the island to fulfill a rural service obligation required of all Venezuelan physicians. García runs the local medical post and is responsible for visiting the dozens of outlying communities in the Autana region. Although she's been here only a couple of months, she seems right at home, despite the stifling northern Amazonian climate. More important, she has already come to terms with what might be called the local medical competition: the native shamans who have practiced traditional healing on the island in virtually the same manner for centuries.

"We have to respect the popularity of traditional medicine," García explains to a visitor, betraying not a hint of resignation. "The shaman is a very important figure here; we

▲ An indigenous Venezuelan woman harvests a native Amazonian plant used by traditional healers to treat menstrual cramps.

can't compete with him. What we do instead is alternate traditional medicine with Western medicine. We share information with, and ask for assistance from, traditional medical practitioners."

García's attitude reflects a new collaborative approach to traditional medicine that is being promoted by public health advocates, not only in Venezuela, but internationally as well. It parallels a growing interest among people in developed countries in traditional medical practices—from acupuncture to herbal remedies—as "alternative medicine," as well as growing commercial interest in modern pharmacological applications of traditional medicinal plants. (See sidebar p. 26.)

More important, the new approach recognizes that traditional healing practices, based on local cultures and resources and developed over centuries, can be effective and in any case remain the most readily accessible form of health care for millions of people in developing countries.

"Traditional medicine, including collective knowledge about cures, self-care strategies and other traditional practices, is a fundamental part of community resources," says Rocio Rojas, an expert on indigenous health at the Pan American Health Organization (PAHO). "Gaining better knowledge of these practices is essential for developing strategies that will improve access to and quality of health care for indigenous populations."

photo © Keith Dannemiller

Traditional healing practices—based on local resources and developed over centuries—can be effective and in any case remain the most accessible form of health care for millions of indigenous people in the Americas.

The Amazon rainforest occupies the heart of South America and is a treasure house of both ethnic and biological diversity. For Venezuela and other governments in the region, providing health care and other basic services to indigenous Amazonian communities is a major challenge that has put relations between Western and traditional medicine on the national political agenda.

In recent years, Venezuelan authorities have drawn up legislation formalizing that relationship in the national health system. Article 122 of the new constitution (which took effect in 2000) recognizes indigenous patients' right to culturally appropriate treatment and establishes doctors' duty to take local beliefs and cultural norms into account. A proposed national health law, currently before the National Assembly, expressly states that "indigenous people have the right to use traditional systems of health care and traditional medicine … but this right does not in any way prejudice their right to access state health care systems."

Jorge Luis Prosperi, PAHO adviser on health systems and services in Caracas, believes this new legal framework is one of the most advanced in the Americas. He considers it a "necessary first step toward delivering appropriate services."

The next, and more complicated, step is for Venezuela's Ministry of Health to understand fully the needs and culture of the indigenous communities it has the responsibility to reach. In some parts of the Amazon, including Isla Ratón, health workers have been working with specific communities for many years and have built up an understanding of the local language, culture and health needs. This has helped them build cordial, cooperative relations with shamans and other local traditional practitioners.

A collaborative approach

Jenny García, in Isla Ratón, credits her predecessors of the past five or six years with establishing friendly relations with the island's traditional Piaroa and Guajibo practitioners. She speaks enthusiastically about the mutual respect that has developed between the Western medical staff and local shamans.

Patients seek out both kinds of medical care, García explains, and both doctors and shamans respect the others' abilities. "The shamans also come to us," she says. "Their style of medicine is consultative rather than selfish. If they see a serious case, they will always send the patient to a doctor as well."

Autana's mayor, Bernabe Arana, himself a Piaroa, says he and other islanders make

PAHO

Out of the Amazon

The Amerindians of the Amazon Basin have for centuries been reaping medicinal benefits from the region's rainforests. "The natives were the first to carry out clinical testing, to experiment with new plants, to combine natural substances; they have always been alchemists," says Gordon Cragg, an expert in indigenous medicine at the U.S. National Cancer Institute.

The Amazon has contributed dozens of substances to Western medicine. Among the best known are curare, an essential component of modern anesthetics, and quinine, used to treat one of the world's most important diseases, malaria.

Quinine is extracted from the bark of the *cinchona* tree and was used for centuries by native Amazonians to reduce fever. In 1820 two French pharmacists isolated it chemically, and in 1944 it was reproduced in the laboratory. "Traditional medicine was the inspiration and the foundation of drugs against [malaria]," says Cragg. "Although today you find case resistance to quinine-based medicines in many places, for a long time it was essential."

A Washingtonian, Richard Gill, discovered the properties of curare and was a pioneer in bridging Amazonian and Western medicine. After graduating from college, he traveled in 1929 to Ecuador, where he struck up a friendship with the natives and began to unravel the "pharmacopoeia" of the jungle. When in 1934 he was diagnosed with multiple sclerosis, he thought that the powerful poison used by the natives on the tips of their arrows might be an alternative therapy. Curare acts by blocking certain chemical receptors so nerve impulses cannot reach the muscles. Thus, Gill reasoned, a medication based on curare might be useful in treating MS or Parkinson's disease.

He organized an expedition with more than 100 members that penetrated deep into the forest and succeeded in extracting the secret of producing curare. He also discovered 75 other botanical species potentially useful for medical treatments. He recalled his experiences in an expedition film and book titled *White Water and Black Magic*. Although curare did not prove useful in treating MS, its relaxant qualities were useful in the development of anesthetics. Since Gill's findings, neuromuscular blocking has been an essential part of anesthesia.

More recent examples of Amazonian medicinal contributions include *chanca piedra* ("shatterstone"), use by native peoples to cleanse the internal organs and treat kidney stones; *manaca*, an anti-inflammatory used to treat endocrine system problems; and *iporuru*, the plant base for a number of remedies for muscular and joint pain.

"Potentially, there are many medications that could be extracted from tropical plants, and the strange thing is that different species often produce the same substance," says Cragg. He adds that many rainforest substances stimulate the immune system, which makes them a useful complementary therapy to other treatments.

Besides the Amazon, other regions in the Americas have made important contributions to modern medicine. An Aztec medicine extracted from the *ñame* (a type of yam) is now used as a steroid hormone in birth control. The main ingredient in Taxol, used in the treatment of breast cancer, is extracted from the Pacific yew tree, which grows in the western U.S. states of Oregon and Washington.

"What is fundamental is to provide the appropriate formula and to know the correct dose for each intervention. Nature is wise, and the indigenous inhabitants knew just what to take and in what quantity. Westerners should learn from them," says Cragg.

—Paula Andaló

health choices according to the type of medicine they feel is more appropriate to their individual case or symptoms. "If I have diarrhea, then of course I wouldn't go to the shaman; I'd go straight to the medical post," Arana explains matter-of-factly. "But if it's an illness that has lasted for three weeks or a month I'd go to a shaman."

García notes that the shamans she knows tend to specialize in ailments caused by the "evil eye," such as psychological problems and headaches or chronic fatigue. Such illnesses are seen as the result of curses, broken taboos or divine displeasure and are treated with prayers, healing spells and purification rituals. But traditional practitioners also employ more practical methods, for example, using medicinal plants and plant infusions to treat conditions ranging from menstrual cramps to skin infections and common wounds. García believes that more serious cases almost always make their way to the medical post with its Western-style care.

Isla Ratón's residents may be more open to government health workers and Western medicine at least in part because their island, by Amazonian standards, is less remote and has been relatively well served by its contact with outsiders. The island has electricity, and a pump brings fresh water up from underground reserves. There are schools run by the Catholic Salesian Order, and, in addition to García's small health post, there is a basic medical laboratory. Communications remain difficult, however; radio is the only way to contact the outside world, and motorized canoes are the only transport available.

Two months into her stay here, García is generally positive about the infrastructure and systems in place. "We try to visit an isolated community every week or two," she says. "We carry out check-ups and immunize people, but it's clearly very limited what we can do in that time. Luckily, the local nurses I've seen are excellent."

Indeed, the area's nurses are a prime example of the cooperative give-and-take approach. They are all members of indigenous communities who have attended courses in "simplified medicine" provided by Venezuela's Ministry of Health with technical assistance from PAHO. In this way, according to PAHO adviser Prosperi, they learn the basics of Western medicine but also retain their traditional knowledge of indigenous medical techniques.

Graduates of the courses live with their communities in the most remote parts of Autana but are in constant radio contact with the medical post on Isla Ratón. They can ask for advice from or refer patients to García, who in turn can transfer the sickest to a hospital on the mainland. The system generally works well, although the distances involved mean that sick patients sometimes face days of canoe travel to reach the medical post or the mainland hospital if air transport is not available.

Electronic health map

To help meet the health needs of other indigenous Amazonian communities, many of which are more remote and to date less well served than Isla Ratón, Venezuela's Ministry of Health is building an electronic database on the needs, cultures and health problems of the country's indigenous population. Dalia Rivero, a Ministry of Health physician, is in charge of the effort. She works with an anthropologist, and together they draw on previous investigations by university researchers, studies by the health and education ministries and field reports by health workers, scientists and missionaries.

The process is still in its infancy, but Rivero hopes eventually to produce a file on each of Venezuela's 32 indigenous communities, 19 of which are located in the Amazon. Each file would include disease and mortality statistics, relevant cultural and linguistic information, population estimates and details about community representatives and traditional medical practitioners. These fact-packs would then be provided to health workers posted to indigenous communities, including those in the rural doctors program.

The improved information also would allow the ministry to allocate health resources better, a key concern in the Amazon, where transporting medicines to outlying health posts can be extremely difficult and costly. For example, Amazonian indigenous groups who migrate during the year are affected more by certain illnesses at certain times. Medical staff working with those groups need to know, for example, that they will need more anti-malaria treatments when these groups settle in an endemic malaria area, but more supplies of diarrhea treatments when they locate near a polluted river.

photo © Owain Johnson

▲ Jenny García, a newly qualified Venezuelan doctor, with her medical post's nurse. García sees local shamans as allies in providing health care to the remote indigenous communities she serves.

Upstream from Isla Ratón on the banks of the Orinoco River is Puerto Ayacucho, capital of the Venezuelan Amazon. The small city is home to the region's only hospital and is the supply base and administrative center for the health authorities responsible for serving the scattered communities of the Amazon.

Puerto Ayacucho is also home to the powerful Regional Organization of Amazonian Indigenous Peoples, or ORPIA. The group's headquarters was originally built as a small tourist resort before being taken over by the organization in the early 1990s. "We liberated it," ORPIA's president, José Gregorio Diaz Miraval, says with a smile.

After years of struggle, during which the ORPIA offices were the target of arson attacks and thefts, the organization has won its battle for legal recognition of indigenous rights and has now set as a top priority the struggle for better health care.

Pedro Jaro, ORPIA's health coordinator, says he is pleased with the Ministry of Health's new emphasis on responding to

Sharing the Amazon's secrets

The Amazon is believed to hold from a third to half of the earth's biological diversity, and the region's indigenous medical practitioners are the keepers of centuries of accumulated knowledge about natural medicinal resources. Scientists believe they may hold the key to the discovery of important new drugs that could benefit millions of people around the world.

The current debate in Venezuela centers on how best to exploit this traditional knowledge for the benefit of the communities that supply it. PAHO adviser Jorge Luis Prosperi agrees that indigenous groups must receive benefits from their knowledge, but he insists that this knowledge should be shared with legitimate researchers.

"I don't doubt that scientists could visit the Amazon to extract the active properties of some plants to make millions out of patented medicines," he says. "But it is correct and fair that legitimate research takes place. Just as I believe indigenous groups have a right to access the breakthroughs and knowledge of the modern world, I believe that Western society has a right to learn about these medicinal plants. They can't be solely the property of the indigenous community or the shaman."

Venezuela's national science foundation, FUDECI, recently launched a major project to collect data about medicinal plants from Amazonian indigenous groups. The information is gathered by field researchers and stored in a searchable database known as BioZulua, administered from Caracas by FUDECI.

The contents of the database remain the intellectual property of the individual indigenous communities, and the Venezuelan government and FUDECI hope to raise money for the groups by charging international pharmaceutical companies for access to their knowledge.

FUDECI's director general, Ramiro Royero, says the project has already produced some extremely interesting prospects and is generating considerable international interest. "No pharmaceutical company has seen this material yet, but when two or three different groups from different areas are using the same plants to treat the same ailments, then it's obvious there's something in the plant that would be worth investigating," he says.

Users of the BioZulua database can search by species, geographic location, ethnic group or even by ailment. For example, companies interested in developing new herbal headache remedies could look at all the plants used for this purpose by indigenous groups throughout the Venezuelan Amazon. The database also includes video footage of shamans collecting and preparing medicinal plants, as well as images of how patients respond to treatment. It provides genetic profiles of every plant entry and the global positioning system coordinates of where exactly it grows. "We have tried to be as comprehensive as possible. We even include a photo of the first person to tell us about the plant," Royero says.

photo © Keith Dannemiller

communities' specific needs, noting that ORPIA has been urging health authorities for some time to tailor programs to individual communities rather than try to implement a "one-size-fits-all" policy.

But the needs remain great, according to Jaro. Health posts are still few and far between and are chronically short of supplies. "Some sick people have to walk nine hours to reach a doctor, and in the Upper Orinoco, sometimes it's not a question of hours but of days," he says.

ORPIA is also concerned that despite the new constitutional and legal protection for indigenous medicine, much traditional knowledge is still at risk, particularly as communities begin to adopt Western habits and gradually abandon aspects of traditional culture. The organization sponsors an exchange program that brings shamans together to discuss their work and pool their knowledge. Rivero sees such programs as crucial to the survival of the body of indigenous knowledge and believes the ministry would likely provide financial support for the scheme.

Indeed, the ministry already sponsors a similar pilot project among the Wayuu of western Venezuela. Wayuu communities have created "intercultural homes" (*casas interculturales*) where mothers can leave their children in the care of community elders, who pass on their culture to the younger generation. The homes also provide meals, and shamans treat patients there and talk to the children. The project has proved a resounding success, and Rivero believes the scheme would work with other communities if it were adapted to their specific cultural needs.

As for Western-style health workers, Rivero says the efforts now under way to help them understand indigenous culture are critical and should significantly enhance their effectiveness in Amazonian communities. "Among the Yanomami it is taboo to name the dead, for example," she says. "And if we are going to talk about HIV/AIDS we need to know how each culture addresses sex. We have to be sensitive to what they want. It's no longer a case of turning up with vaccines and telling everyone to form a line with their sleeves rolled up."

Owain Johnson is a freelance journalist based in Caracas, Venezuela.

photo © Keith Dannemiller

▲ A Piaroa mother and her child in the entrance to their thatched hut home on Venezuela's Cataniapo River. The country's new constitution mandates respect for indigenous beliefs and cultural norms in the provision of health care services.

Venezuelan authorities have received a number of complaints from Amazonian communities about biopiracy by commercial companies in recent years, and ORPIA has been very active in denouncing such abuses. "We've seen it all," says ORPIA human rights coordinator Daniel Guevara. "Scientists disguised as tourists, tourists disguised as scientists. They'll try anything."

FUDECI hopes the BioZulua database will encourage interested pharmaceutical companies to contact the project's administrators rather than approaching indigenous groups directly. "Our database provides added value and it will be much cheaper for companies to buy information from us than to send teams of researchers undercover into the Amazon," Royero says.

The BioZulua project could well serve as a model for similar schemes around the world. Several other countries in Latin America and Africa have expressed an interest in the project's methodology, and the governing committee of the World Intellectual Property Organization recently invited Royero to deliver a paper on BioZulua at its Geneva headquarters.

Its supporters say BioZulua eventually could generate several millions of dollars that could be used to meet the heavy financial costs of providing improved health and other services for indigenous Amazonian communities.

photo © Owain Johnson

▲ Ramiro Royero, director general of FUDECI, hopes to raise funds for indigenous health care by charging international pharmaceutical companies for access to information in the BioZulua database.

Through Words and Pictures

by Sir George Alleyne

This new world of almost infinite interconnectedness will present problems that one nation cannot deal with alone. There will be a need for joint action, and communication through words and images can help to create a genuine community for health in our Region.

I do not think I have ever really had the last word in my life, and there is indeed never any last word in health matters anyway. However, on this occasion I will use this opportunity to reflect in this magazine for the last time about its origins, my perception of it and my thoughts about its prospects. I will reflect on how it has fitted into my view of how information should be perceived and used in an organization like ours. I will also mention some of the key actors who are responsible for its success.

It was in April 1995—just three months after I had assumed office—that Roberta Okey and Daniel Epstein of our Office of Public Information came to me to propose that the Pan American Health Organization (PAHO) should produce a news magazine. I liked the idea immediately, but because of my cautious nature and with due regard to our financial state, perhaps I did not transmit my enthusiasm to them. Instead I advised that they should survey the potential public to determine the need for such a product. Five months later, when Okey returned with Bryna Brennan, chief of public information, to show me the positive results of the survey, I could be openly enthusiastic about the proposal and agreed to the budget they presented.

Everyone was thrilled with the first issue when it appeared in 1996, and predicted a rosy future. When the magazine was launched officially, I introduced it and waxed warm first about the idea in general and then about the contents, emphasizing particularly the significance of the picture on the cover. It symbolized, perhaps even more than the editors realized, what the magazine would be about. It was a picture of a street vendor pushing his bicycle cart firmly forward. It was a picture of motion and purpose that reflected the reality of life and health in our streets and those who made their living there. This was an affirmation that the information we would present to our public would be in photographs from our archives, many captured through the lens of our master photographer, Armando Waak, as well as pictures painted vividly in words.

I have always been fascinated with the written word and have long had a great respect for the meanings it conveys. While I would not go as far as Chekhov's dying declaration that "medicine is my legal spouse and literature is my mistress," I do share some of that perspective, and it is a joy to see the faces of health and medicine reflected in literature of various types. *Perspectives in Health* has indeed allowed many to see through the bald facts that attend many health problems and health triumphs, and frame them in contexts that they understand. It was meant to inform as well as to entertain—a function that it has carried out well.

> PAHO's product is technical cooperation. But its publics are many and varied, and success in making its product understandable depends on its effective use of information.

I saw this news magazine as one of the ways in which we would use information at PAHO. I made it clear from the first day that information would be a key to our work and cited the famous chorus from T. S. Eliot's *The Rock:*

"Where is this life we have lost in living?
Where is this wisdom we have lost in knowledge?
Where is this knowledge we have lost in information?"

As the noted author, diplomat and educator Harland Cleveland might have added, Where is the information we have lost in data? I have always believed that information is the key link in that chain, and any good organization has to conceptualize and operationalize its proper use of information.

I have also believed what industrialist Alfred P. Sloan is supposed to have fixed as a major guide for his success: "Know your product and know your public." Our product is very clearly our technical cooperation, but our publics are many and varied, and our success in making our product understandable to our publics rides on our proper use of information. We have as one public the countries of the Americas, which are usually represented by their ministers of health.

But like any organization supported by public funds, we have a responsibility to the various bodies public in the countries that we serve. They wish to relate to what we do. I believe they wish to empathize and sometimes sympathize with us as an organization as we try to help in addressing the great health problems of our time. They also wish to have presented in an attractive way some of the human stories that surround health, and not only relate to the disembodied data that have no faces

wreathed in smiles or streaked with tears. They wish to relate to the stories of human triumph and the oft-unspoken reality that death is an inescapable feature of the human condition. They wish to relate to an organization and support it because they see some of its actions in themselves and can be pleased with the goals and achievements that are painted subtly through the words and pictures.

This kind of communication and this kind of information will be increasingly important in the years ahead. There is no doubt that this new world of almost infinite interconnectedness will present problems that one nation cannot deal with alone, and there will be a need for the kind of joint arrangements that facilitate international action. One might say that this was the motive behind the formation of PAHO 100 years ago. That is true, but the difference now is in the intensity and speed of the connections and the nature of the problems. The threat of infectious disease perhaps can be more readily accepted as being of international interest than the many and varied health problems that form the epidemiological mosaic of the Americas.

It is necessary to be able to communicate to the public the essential commonality of many of these health problems and transmit the idea that the heroes of health today are every bit as valiant as those of a century ago and are equally deserving of our recognition. Diseases may change, but the nature of human suffering has not. This kind of communication can serve to create a genuine community for health in our Region, all the while providing the visual entertainment that comes through the effective use of images and words.

There will be some who will predict that modern means of communication will render this type of publication obsolete and that there will be more efficient ways of transmitting information to the public that we wish to reach. I say, perhaps. Touch is also one of the senses that needs to be satisfied, and the portability that is a virtue of this medium contributes to my optimism about its future. The medium is appropriate and attractive, and the message is compelling.

These are reasons enough to feel satisfied with the birth and growth of this magazine and predict for it a bright tomorrow.

Sir George Alleyne concludes his second term as director of the Pan American Health Organization in January 2003.

Mailbox

Antibiotic resistance

Congratulations on your article "Antibiotic Resistance: Are We Killing the Cures?" (Vol. 7, No. 1), on the growing problem of antibiotic resistance in Latin America, the result of the indiscriminate sale, dispensing and use of antibiotics.

Antibiotics are different from other drugs. They are the only therapeutic agents whose use by individuals affects entire households, health care settings and communities. Epidemiological studies document associations between antibiotic misuse and the emergence of drug resistance. To help curb the problem, providers must choose the right drug for the right condition, for the right amount of time, and use the most narrow spectrum agent that is effective for the condition. They should also know susceptibility patterns in their practice area.

APUA and its 30 international chapters act as a unique global resource to provide objective information about antibiotics and resistance. Last year we sponsored a symposium in Mexico that produced the "Declaration of Guadalajara for the Containment of Antimicrobial Resistance in Latin America" (it may be viewed at www.APUA.org). This document is a customized tool for intervention in Latin America for use by policymakers, the media, microbiologists, universities and advocates dealing with antimicrobial resistance.

We at APUA support your efforts to raise awareness of this issue.

Stuart B. Levy, President
Kathleen T. Young, Executive Director
Alliance for the Prudent Use of Antibiotics
Boston, Massachusetts
USA

Saving small lives

After reading the article on the integrated management of childhood illness (IMCI) strategy (Vol. 7, No. 1), I believe the IMCI strategy is showing results. Without doubt, it is important to show clearly the effect and impact of this strategy.

There is still much to be done. The majority of the countries in the Region that are using the strategy have made important advances. But many health systems fall short of its correct application, which requires a suitable frame of reference, availability of medicines and compatible information systems. A Honduran colleague of mine has likened IMCI to trying to load state-of-the-art software onto a 386 computer. You have to update the computer.

The community element of IMCI should also be noted. This strengthens the strategy in the areas of prevention and promotion, and provides an excellent opportunity to attract new partners, such as nongovernmental organizations, which provide critical support.

Let us hope the process does not move too slowly and that before long we begin to see the fruits of the exercise: healthy, intelligent and happy children, who represent the future development of our countries.

Dilberth Cordero Valdivia, M.D.
Representative, BASICSII
La Paz
Bolivia

Facing AIDS

I was most impressed by your article on the Garifuna people ("Facing the Music," Vol. 7, No. 1). As one of the U.S. physicians who work closely with Nestor Salavarría in his ministry in Honduras, I have visited the north coast and seen the program in action, and I felt the article was accurate and fair. Thanks for publishing it.

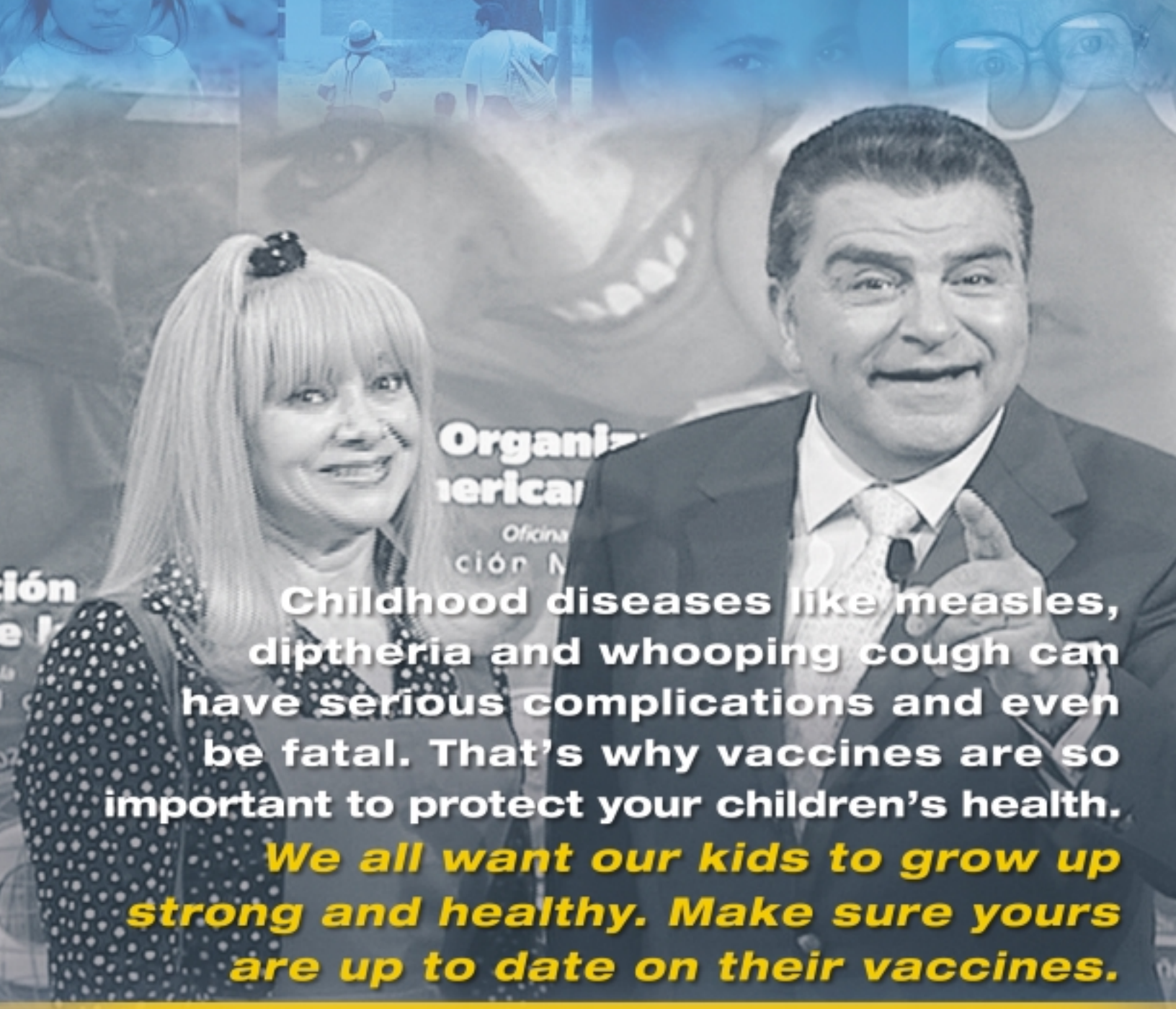
Robert A. La Fleur, M.D.
Grand Rapids, Michigan
USA

The Future of Public Health

Thank you for your eye-opening series of articles on the future of public health (Vol.7, No. 2), one of the most overlooked perils of our technological age. Such information is too often clouded in scientific argot, leaving the layman confused about the potential jeopardy that faces the population. Your stories were not only highly readable, they were sobering.

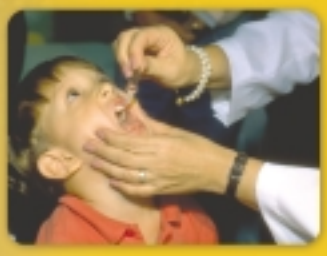
Mark Washburn
Davidson, North Carolina
USA

We encourage readers' comments on articles in *Perspectives in Health* and on the issues they raise. We will run a sampling of letters received in each issue. Some may be edited for space. Please include your name and address. Send to the Editor, *Perspectives in Health*, Office of Public Information, Pan American Health Organization, 525 Twenty-third Street, N.W., Washington, D.C. 20037, or via fax at 202-974-3143 or by e-mail to eberwind@paho.org. *Perspectives in Health* cannot be responsible for unsolicited manuscripts and/or photographs. Please query first. Guidelines are available upon request.



Childhood diseases like measles, diptheria and whooping cough can have serious complications and even be fatal. That's why vaccines are so important to protect your children's health.

We all want our kids to grow up strong and healthy. Make sure yours are up to date on their vaccines.



"La Cuatro" and Don Francisco

Champions of Health of the Americas

1902-2002

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PERSPECTIVES in Health

photo © Alex Morel

A Haitian boy daydreams, like children everywhere, seemingly unconcerned about the inherent uncertainty of his future. The Pan American Health Organization (PAHO) is working with Haiti to ensure that his health remains an asset throughout his life. PAHO provided critical help in halting outbreaks of measles and polio in 1999–2000, with vaccination campaigns that reached 90–95 percent of the country's children. Now the Organization is helping to strengthen Haiti's ability to provide routine vaccine coverage. PAHO has also joined Haiti's fight against neonatal tetanus, a disease that kills as many as eight in 10 of the babies it infects. Health officials have prepared a comprehensive plan to control the disease and are now seeking funding to carry it out.

www.paho.org

1902-2002

Celebrating **100** Years of Health