

# DIABETES MANAGEMENT™

*The Complete Diabetes Disease State Management Resource*

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## Minorities in U.S. bear the brunt of growing diabetes epidemic

*Obesity and sedentary lifestyle trigger disease among high-risk groups*

**H**ealth care professionals are challenged on a daily basis to find new ways to treat, educate, and motivate their patients in the face of what is rapidly becoming a health care emergency: uncontrolled diabetes.

Although physicians may be alarmed by how common diabetes is becoming in their practices today, patients often don't seem to share their concern. A trend, especially prominent in our minority populations, points to a problem existing beyond a particular race. A lifestyle of overeating and remaining inactive allows this potentially deadly disease to strike its victims at a younger age, causing more disability and ultimately taking more lives.

Minorities bear a disproportionate share of the disease in American society. Health care professionals know the epidemic is treatable and manageable, but they have yet to find a way to get more people at the highest risk to comply with a more health-conscious lifestyle.

The data support what some might otherwise take as hyperbole. According to the Centers for Disease Control and Prevention in Atlanta and the American Diabetes Association in Alexandria, VA, the current situation is as follows:

□ All minorities in the United States suffer diabetes at a far higher rate than whites.

## KEY POINTS

- All minorities in the United States are at high risk for diabetes.
- Of minorities, Native Americans have the highest incidence of diabetes and of certain complications of the disease, especially renal failure and neuropathy.
- Experts blame a growing rate of obesity and the increasingly sedentary lifestyle of the American people as a whole for triggering diabetes in those at risk.

## DIABETES BY RACE

in people 20 years or older\*

	Number	Percentage of population	Likelihood compared to whites
<b>Non-Hispanic Whites</b>	11.3 million	7.8%	
<b>African Americans</b>	2.3 million	10.8%	1.7
<b>Mexican Americans</b>	1.2 million	10.6%	1.9
<b>Other Hispanics**</b>	1.8 million	8.0%	2.0
<b>Native Americans and Alaska Natives</b>	Data not available	12.2%	2.8***
<b>Asian Americans and Pacific Islanders</b>	Data not available		2.0 (estimated)

\* These figures do not include the approximately 123,000 cases of diabetes in children and teen-agers in the United States.

\*\* Estimated

\*\*\* About 50% of the members of the Pima tribe in Arizona between the ages of 3 and 64 have diabetes.

Sources: Centers for Disease Control and Prevention, Atlanta; and American Diabetes Association, Alexandria, VA.

□ Nearly 6% of the general population has diabetes, diagnosed and undiagnosed, with nearly 800,000 new cases diagnosed each year. Of those, approximately 90% have Type II diabetes, and 80% of Type II diabetics are obese.

□ Diabetes causes an enormous drain on the health care system, costing in excess of \$92 billion per year in direct medical costs. For minority groups, the numbers are even more significant:

— Native Americans: 12.2 % of the population over the age of 19 is diagnosed as diabetic. The undiagnosed rate is estimated to be almost equal to the number of those diagnosed. On the average, Native Americans are 2.8 times as likely to have diagnosed diabetes as whites of a similar age.

The Pima Indian tribe in southern Arizona has the highest rate of diabetes in the world. Half of the tribe's adult members have diagnosed diabetes, and the tribe suffers an alarming rate of complications with a rate of diabetic end-stage renal disease six times higher than the white rate.

— African Americans: 10.8% have been diagnosed as diabetics. They are 1.7 times more likely to have diabetes than whites of a similar age. Of African Americans between the ages of 65 and 74, 25% have diabetes.

One in four black women over the age of 55 has diabetes. African Americans are 40% more likely to experience severe visual impairment than whites, and black women are three times more likely to go blind than white women. In addition, blacks are 72% more likely to have diabetes-related lower extremity amputations and

117% as likely to have amputations than Hispanic-Americans.

— Mexican-Americans: 10.6% of the population is diagnosed, with 1.9 times greater likelihood of having diabetes than whites of a similar age.

Other Hispanics have correspondingly high rates of diabetes: 24% of Mexican Americans and 26% of Puerto Ricans between the ages of 45 and 74 have diabetes. Nearly 16% of Cuban Americans between the ages of 45 and 74 have diabetes.

— Other groups: While Asian Americans and Pacific Islanders are also at great risk for diabetes, insufficient numbers of definitive studies have been done to determine prevalence rates or incidence of complications.

Anecdotally, researchers say when Asians adopt a western diet high in fat, whether in their home countries or as a result of migration, their experience of diabetes increases dramatically.

### *Why are certain groups more at risk?*

The general population is becoming fatter and more sedentary, but the reasons for the extremely high risk of diabetes among minorities are still baffling.

One concept that receives a great deal of credence in some circles is the "thrifty gene" theory supported by nearly 20 years of research. Thrifty genes harken back to prehistoric times when those most likely to survive were those who could store enough fat needed to live through

long periods of starvation. Since the fittest survived, at least long enough to reproduce, they carried that gene forward to a society where the storage of fat is not only unnecessary, it can be a fatal flaw. **(For more information on incidence of the disease by race, see chart, p. 14.)**

Whites may have these thrifty genes, too, since until fairly recently, people were all hunter-gatherers. It's possible, however, that due to differences in socioeconomics, more minorities go on to express these genes and suffer their consequences. Their greater risk of developing the disease, compounded by the realities of poverty, probably contribute much to producing these sobering statistics.

This issue of *Diabetes Management* and future issues will examine the impact of diabetes on minorities from a variety of perspectives, as well as present different methods of raising patient awareness and helping more patients control the disease. ■

## Type II diabetes is no longer an adult disease

### *Minority kids bear a disproportionate burden*

Clinicians are deeply concerned about the growing number of children and adolescents being diagnosed with Type II diabetes. In fact, some researchers suggest the Type II diagnosis in children under the age of 18 has increased tenfold in the past five years.

The average Type II diabetic is diagnosed around the age of 50; the thought of children ages 12, 14, and 16 with the disease once called "adult onset diabetes" presents a mind-boggling array of future problems for the young patients and for the health care system.

"When we began to look closely at this, we found it was almost certainly the result of an unbelievable epidemic of obesity in this country," says **Kenneth Lee Jones, MD**. The pediatric endocrinologist also is professor of pediatrics and chief of the division of pediatric diabetes and endocrinology at the University of California School of Medicine at San Diego (UCSD).

**Arlan Rosenbloom, MD**, a pediatric endocrinologist and professor emeritus at the University of Florida in Gainesville, echoes Lee's concern for

the increasing numbers of minority children being treated in his clinic.

"It's probably true for people in their 20s and 30s, too, even though we don't see them here," he says. "There's not a sudden peak and a drop off. The average age of onset of Type II diabetes is shifting downward with increasing obesity."

Jones estimates that 10% of all pediatric diabetes is Type II, and he estimates the percentage is far higher in minority populations.

What's more, he says 21% of the Mexican American children in his UCSD pediatric diabetes clinic have Type II, as compared with only 3% of the non-Hispanic diabetic children. His clinic has seen a tenfold increase in the number of children diagnosed as Type II diabetics in the past five years.

Jones notes that Type II seems to be skyrocketing, not only in Mexican American and Hispanic children, but among Native American, Pacific Islander, Asian Indian, and Japanese children. He says the incidence of Type II diabetes in Japanese children is more than double those diagnosed as Type I (2.80 to 4.61 per 100,000 per year, compared to only 1.2 to 2.1 per 100,000 per year), the form of diabetes more commonly found in children in most societies.

Jones is the first to concede his experience with Mexican American children is due, at least in part, to the large Mexican American population in San Diego.

But the story is much the same in New York, except African American children are bearing the burden.

### *Children's obesity is the key*

While the Naomi Berrie Diabetes Center of Columbia-Presbyterian Medical Center in New York City sees its share of Hispanic and Native-American children with Type II, the preponderance of the disease is in black children, perhaps simply because of the population distribution in New York, says **Robin Goland, MD**, co-director of the center.

She says Type II diabetes is being diagnosed in 10% to 20% of the center's new pediatric patients. But there is a disturbing commonality between what Lee and Goland are seeing. "Virtually every one of the children we have diagnosed as a Type II diabetic is obese," says Goland.

"There's an interplay between obesity, their environment, and a genetic predisposition to diabetes," she adds.

## KEY POINTS

- Type II diabetes is increasing dramatically among children, particularly in minority children.
- Experts attribute the increasing incidence to widespread obesity and a sedentary lifestyle.
- Racial predisposition to the disease places an even greater burden on minorities.
- Concern is rising about the probability of skyrocketing complications among younger people in the coming years.

Those who are watching the progression of this outbreak add it can be traced to poor diet, little or no exercise, a family history of diabetes, and a racial predisposition toward the disease.

The latest data from the National Health and Nutrition Examination Surveys show one in five American children is overweight and the number of obese children has doubled in the past 20 years.

The greatest risk is for poor minority children whose working parents often leave them to eat high-fat meals at fast-food restaurants and who have little access to recreation programs or gyms.

### *Trend in ethnic groups repeated for children*

When the predisposition toward diabetes in blacks, Mexican Americans, and Native Americans is factored in, it's no surprise that the rise in Type II among children is being seen so much more frequently in those communities.

Diagnosis can be tricky, since Type II diabetes often mimics other diseases in children and distinguishing between Type I and Type II is sometimes difficult, says Jones.

He offers clinicians the following indicators that a child may be suffering from Type II diabetes:

- ✓ **obesity;**
- ✓ **family history of diabetes;**
- ✓ **acanthosis nigricans** (a darkening of the skin at the back of the neck, armpits, and waist — also a sign of colon cancer);
- ✓ **females with hyperandrogenism**, including hirsutism and irregular menses, frequently with polycystic ovaries.

Treatment can be equally difficult because oral agents have not yet been formally approved by the Food and Drug Administration for pediatric use, although they are often prescribed. Clinical trials of metformin for pediatric use are just getting under way.

And compliance and control are difficult to achieve in children, particularly in those who spend a great deal of their time unsupervised, says Goland.

"We do everything we can. We send nutritionists into their homes to look at what's on the shelves; we even go shopping with them. We involve the families, friends, even the community to help them understand the seriousness of the problem."

The age of onset is not suddenly dipping downward, says Jones. "These are kids who have a predisposition because of family history, genetics, whatever. They might still have developed diabetes, but maybe not until their 40s or even later if they weren't obese," he explains.

Rosenbloom echoes those concerns and raises yet another fearsome aspect of the disease that may be just around the corner — a wild swing in the number of diabetic complications among young people. "We may be facing an enormous epidemic of complications in the coming years," he says.

### *Is the age to start dialysis dropping?*

Japan is already seeing a "tremendous increase" in end-stage renal disease, or ESRD, among diabetics whose onset was between the ages of 30 and 35. This trend, Rosenbloom says, causes him to speculate that the age at which young diabetic adults may need dialysis may drop to the early 30s or even into the 20s if the current trend in the United States continues.

He notes that under the old model in which a Type II diabetic might be diagnosed at 40 or 50, it might take 20 years or more to get to ESRD, and the patient "might have died of something else before that."

But a person diagnosed with Type II at age 15, 20, or even 30 could reach ESRD at a far younger age.

"This is only the tip of the iceberg in terms of diabetic complications," says Rosenbloom. "It's just easier to monitor nephropathy because of the need for dialysis." He also predicts that retinopathy, neuropathy, and cardiac complications so commonly associated with diabetes are likely to follow suit.

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# Complications hit the black community hard

*Black women have higher prevalence than men*

One would think that in her 45 years of practicing medicine in the poor neighborhoods of Houston, **Edith Irby Jones, MD**, has seen just about all there is to see with urban health issues.

But the sudden rise in diabetes among her fellow African Americans has stunned her.

"It's frightening. Very frightening," says Jones, a family practitioner, clinical assistant professor at both Baylor University and the University of Texas at Houston, and former president of the National Medical Association.

Like other health care professionals treating members of minority groups, Jones says obesity and a sedentary lifestyle must carry a big part of the blame for the escalation. But she points a finger at another culprit: poverty and the complex web of disease and death it weaves in the lives of its victims.

Medicaid helps the poor with receiving health care, she says. But in considering how much Medicaid helps, Jones asks the following questions:

- What if patients can't get to the clinic?
- What if they have no transportation?
- What if the clinic is only open 9 a.m. to 5 p.m. and patients will lose their jobs if they take time off from work?
- Who will take care of the children while

## KEY POINTS

- African Americans have a high rate of diabetic complications and disability from them.
- Blacks are at high-risk for end-stage renal disease, lower extremity amputations, and retinopathy.
- The rate of morbidity and mortality is far higher among black women than black men.

patients go to the clinic?

- What if they're too sick to get to the clinic?
- If they do get there, what if they can't get back for follow-up?

It sounds like a myriad of problems, but Jones has found answers at least to some of them. First of all, she says, her clinics are in the neighborhoods where people live, not downtown or three bus rides away.

They are open early in the morning and in the evenings so people who work can get there. "We can't expect them to come to us. We have to go to them," Jones says.

She has arranged for podiatrists to go to the homes of her diabetic patients to provide foot care services.

Sometimes she even piles patients into her car and takes them where they need to go.

In addition, her clinics provide little "perks" to entice patients there and to persuade them to stay.

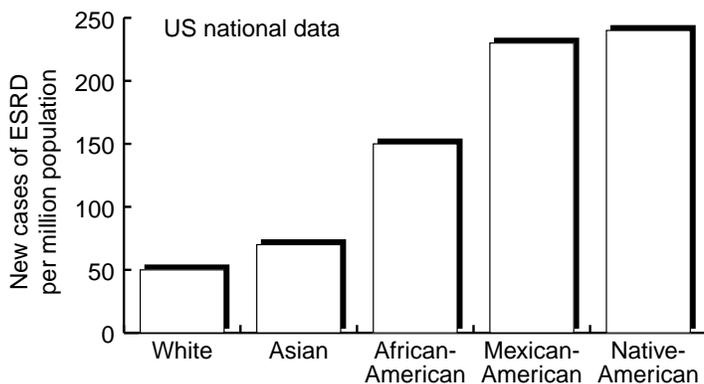
"We give breakfast and lunch. We give education classes and particularly teach them about nutrition. We get the drug companies to donate glucose monitors, and we teach them how to use them. We even get nutritionists out to their homes to teach them how to cook meals."

It may take a community-by-community approach to reverse the toll diabetes is taking on African Americans.

According to the National Institutes of Health (NIH) and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), both in Bethesda, MD, the rate of diabetes among African Americans has skyrocketed by 400% in the past 30 years.

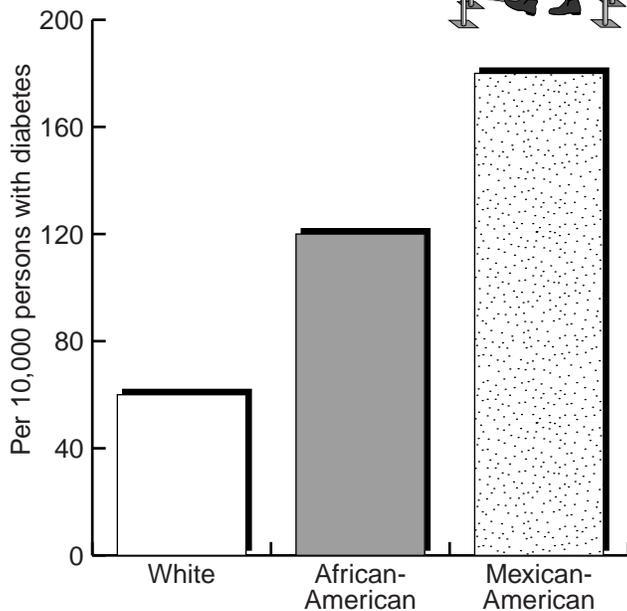
- Of 35 million black Americans, 1.5 million have been diagnosed with diabetes and about half of them are unaware they have the disease.
- Among African Americans age 50 and older, 19% of men and 28% of women have diabetes.
- African American diabetics have three times

## End-Stage Renal Disease and Diabetes: Five Ethnic Groups



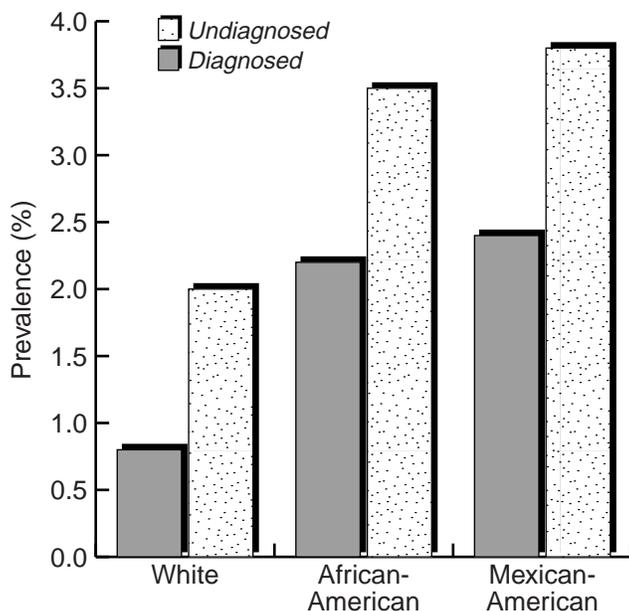
Source: U.S. Renal Data Survey, National Institutes of Health, Bethesda, MD.

## Amputations in People With Diabetes: Three Ethnic Groups



Source: National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD.

## Prevalence of Diabetes: Women 20-44 Years Old



Source: National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD.

the likelihood of end-stage renal disease (ESRD) as whites. (See graph, p. 17.)

- Blacks are 2½ times as likely to have a lower extremity amputation, and they are about 20% more likely to die as a result of the amputation. (See graph on amputations, at left.)

- The frequency of diabetic retinopathy is 40% to 50% higher in blacks than whites.

- African-Americans die from diabetes at a far higher rate than whites. The death rate is 40% higher for women and 20% higher for men. Diabetes is the fifth leading cause of death in blacks.

Not only do blacks suffer complications at a far greater rate than whites, say the NIH and the NIDDK; greater disability results from those complications.

“The denominator is still poverty,” Jones says. “It’s lack of education, lack of time, lack of family support, lack of proper foods.”

She says it is important for health care professionals to invest the time to be sure patients understand what a diagnosis of diabetes means.

“When you get into a one-on-one situation, they can ask questions and I can take the time to be sure they understand,” says Jones. “I tell them how to take what little money they have and buy proper foods and to get a right combination of rest, work, play, exercise, and diet.”

Of course, compliance is a major issue and always will be, Jones says, but explaining to her patients why they should be compliant is worth the effort: “They’re noncompliant when they don’t understand why they should comply.”

The illiteracy and functional illiteracy that are so prevalent in poor black communities are also a big barrier to compliance, Jones says. “You can’t just hand them a pamphlet to read. You have to take the time to sit down and explain it to them.”

Black women have a particular risk of diabetic complications, at least in part, because of a cultural behavior pattern in which “they take care of everybody but themselves,” she explains. And they are far less likely to exercise, with fewer than one-third of all black women reporting they participated in any form of exercise. (See graph, at left.)

Add to that the complications of diabetes associated with pregnancy and the higher risk of gestational diabetes among black women (50% to 80% higher than in whites) and Jones says that explains why black women are at greater risk than black men.

The high rate of hypertension among African Americans, diabetic and nondiabetic, is a factor in developing ESRD. Diabetes is the cause of 43% of ESRD in black patients. Hypertension is blamed for 42% of cases. (The remaining cases are due to other causes.) ■

## Educators get out the message to minorities

### *Programs target high-risk ethnic groups*

The message is simple, but getting the word out to minorities about controlling diabetes has been a challenge for the American Diabetes Association (ADA) in Alexandria, VA, and the National Diabetes Education Program (NDEP) in Atlanta.

By interacting closely with members of each ethnic group, NDEP and the ADA say they have learned these techniques:

- Encourage Hispanics to exercise by appealing to their love for dancing.
- Get the message across to African Americans by appealing to them through the churches that are so much a part of life in the black communities.
- Reach Native Americans through their sense of tribal unity and their understanding of the human spirit.

“We had members of the target populations advise us. They set us straight when we were off the mark,” says **Faye Wong**, MPH, RD, associate director of diabetes education in the Division of Diabetes Translation for the Centers for Disease

Control and Prevention in Atlanta. She also is CDC director of the NDEP, a partnership between the CDC, the National Institutes of Health, and the National Institute of Diabetes, Digestive, and Kidney Diseases.

NDEP, funded for about \$3.5 million in 1998, is spreading its “Control Your Diabetes. For Life” program to include campaigns targeting African Americans, Hispanics, and Native Americans and the health care providers who serve them.

The ADA’s tiered education program ranges from broad-based television, radio, and print public service announcements to a wide variety of printed materials to intimate face-to-face interactive programs in the communities where target audiences live, says **Shelly Heath-Watson**, MS, diversity program manager for the ADA. The association allocates 38.6% of its \$123 million budget to all its information efforts.

“We had the programs generated by our project teams,” says Heath-Watson. “The teams gave us cultural nuances and what we needed to be sensitive to and helped us with staff training.”

The message to everyone is the same:

- Recognize the risk of diabetes.
- Get tested.
- Control the disease.

Over and over, a wide array of literature informs those who have been diagnosed with diabetes and those who have not to recognize the signs of the disease and to get the care they need to prevent complications. But each minority group is approached in a unique way.

For more than four years, the ADA’s campaign has approached the Hispanic community through a program called DAR (Diabetes Assistance and Resources) which means “to give” in Spanish.

NDEP is currently in the midst of its second wave of materials targeting the Hispanic community through a program launched last June. “There’s a barrier of fatalism in the Hispanic community,” says Wong. NDEP’s latest television public service announcement features a stormy sky and the message in Spanish and English:

“Some things in life you can’t control. Fortunately, diabetes isn’t one. Take your diabetes seriously so it doesn’t become too serious.”

Wong says the materials aimed at the Hispanic community were developed in Spanish to help achieve precision of language, then sometimes translated back into English for mass media distribution. “In the Latin community, there is the myth that a trauma causes diabetes,” says Heath-Watson. The myth is addressed through a barrage

### **KEY POINTS**

- The American Diabetes Association and the National Diabetes Education Program have developed education programs targeting Hispanics, African Americans, and Native Americans with culturally specific messages designed for the greatest impact.
- Each program has design teams composed of members of the target minority group to be sure the message had broad appeal to members of that group.
- Mass media is used for wide dissemination of the message and community-based education provides a more personal reinforcement.

of various media messages and a plethora of literature available everywhere from doctor's offices to community centers to churches. **(For an example of a Spanish-translated handout, see questionnaire, inserted in this issue.)**

The Latinos' love for dancing is used to encourage exercise through ads called "Get Up and Dance," she explains.

### ***A spiritual approach***

"In the African American community, there is a strong sense of faith," says Heath-Watson. "People think if they pray hard enough, God will take it away. So we educate the pastors, and they tell people God can work through doctors."

The ADA program is based on a concept that educators must go where the audience is. "That means community centers, churches, wherever they are," she adds.

A television commercial currently in production for NDEP features a black family reunion and the message that diabetes runs in families and those who care for themselves will be there for their families. Print ads show an older man and a child with the message "I'm controlling my diabetes so I'll be around for my grandchildren."

The ADA's African American Program, which began in 1996, offers, among other tactics, a letter from popular gospel recording artists, the Clark Sisters, whose mother died of diabetes. Says the letter sent to black congregations as part of Diabetes Sundays which take place regularly in black churches: "Some things we don't have control over in our lives, but the good news is that diabetes is a disease we can do a lot about. It can be controlled, and complications don't have to happen."

Programs targeting Native Americans are just beginning to get off the ground, and not a moment too soon, say Wong and Heath-Watson, since a higher percentage of Native Americans suffer the ravages of diabetes than any other ethnic group. And that audience is fraught with cultural sensitivities, says Wong. "There are more than 500 tribes, and some may look at a commercial and say, 'That looks like southwestern Indians. That's not us,'" she says. "So conveying the message is complex."

Because of the many languages, different physical characteristics, and even varied music, the commercial now in production has been carefully crafted to include as many different components as possible "so the message is universal," says Wong.

Many Native Americans believe diabetes is a

white man's disease, and it is caused by being too close to white people and their food, says Heath-Watson. While there may be some basis in truth, at least for the cautions about "white man's food," the ADA's "Awakening Our Spirit" campaign to be launched in the fall of 1999 focuses on traditional values and spirituality, traditional foods, cultural roots in exercise, and the sense of community.

"These messages will emphasize awakening our inner spirits to soar once again and to strengthen our determination to fight this epidemic. Each of us will see the role we can play in the fight to eliminate diabetes," states the program's design team's letter to Native American communities, their tribal leaders, and elders.

The Asian and Pacific Islander population, also at high risk, has not yet been targeted for a specific campaign, but Wong, who is of Chinese descent, says the Asian American population is an important one to include in campaigns. "There are not enough data, but it's a problem. Just because you don't have the numbers, we do have diabetes."

An NDEP focus group is now tackling the thorny issues of a wide variety of cultures and languages ranging from Chinese to Filipino to Vietnamese to Fijian to Japanese and everything in between to find "some commonalities so we can convey the message to them, too," says Wong.

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## **Hard road to walk: Native Americans and diabetes**

### *Combination of genes and Western lifestyle*

**L**orraine Valdez, RN, CDE, remembers her L days as a nurse in an Indian Health Service hospital in New Mexico all too well. Amputation was part of treating patients with advanced diabetic complications.

She remembers literally "chopping people up, piece by piece. First some toes, then a foot, then a leg. Then we'd start on the other leg."

Valdez, a member of the Isleta and Laguna Pueblo tribes, is now national nursing coordinator for the Indian Health Service (IHS) Diabetes Program based in Albuquerque, NM, and co-chairwoman of the Native American project team

## KEY POINTS

- Native Americans have the highest incidence of diabetes of any group in the United States.
- Experts attribute the high prevalence to genetic predisposition, obesity, and a sedentary lifestyle introduced by Western culture.
- The U.S. government's Indian Health Service has recently received a 5-year \$150 million grant to tribes to devise their own methods of addressing the problem.

for the American Diabetes Association.

In the last 20 years, Valdez has seen yet another cruel blow dealt to Native Americans.

In modern civilization, diabetes runs rampant, affecting nearly every family, and in the case of one Arizona tribe, striking half the adult population.

"I just grew up with it. Everybody knows somebody who has diabetes — family members, friends. It's a way of life, having diabetes," she says. The latest figures show Native American adults have a 12.2% incidence of diabetes. But health care professionals in the field say that is probably underreported, since people living on reservations are not included in the national health surveys. Also, about half the Native American population lives in urban areas, where many are resistant to participation in government studies. Most of the data is obtained from IHS facilities where care is provided free to residents on reservations.

The rising number of Native Americans being diagnosed with Type II diabetes is blamed on two factors: genetics and the intrusion of Western civilization. The new culture brought with it poor diet and motorized transportation, giving obesity and a sedentary lifestyle a strong foothold.

"Obviously, Native Americans have a genetic predisposition to the disease," says **Barbara Ramsey**, MD, medical director of the Native American Health Center in Oakland, CA, whose patients include about 5,000 urban Native Americans each year.

Ramsey says she is a subscriber to the "thrifty gene" theory of survival of the fittest — that ancestors of Native Americans and other high-risk ethnic groups were those who could store fat and therefore survive long periods of famine. "Now they live in the most food-abundant country in the world and the least physically active. It's no wonder they have the highest incidence of any ethnic group."

Ramsey and several fellow health care professionals point out that access to food is not usually a problem in the United States; the problem is knowing how to spend limited resources on the most nutritious food possible. Full-blooded Native Americans and Indian women are at particularly high risk, according to a 1995 study by **Dorothy Gohdes**, MD, former IHS medical director in Albuquerque (published in *Diabetes in America* by the National Institutes of Health and the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, MD).

"Both diet patterns and physical activity have changed markedly in Native American communities over recent decades," Gohdes writes.

"Although detailed longitudinal surveys are not available for most tribes, the disruption of traditional agriculture and hunting has resulted in an increased consumption of fat, typical of the contemporary Western diet."

Interestingly, the prevalence of diabetes lessens with tribes living farther north and farther west, presumably away from the more direct influences of Western society. According to 1980 census figures, the rate among Alaska natives and indigenous residents of the Yukon and Northwest territories is far below that of white society at four to 17 per 1,000.

"For now, their rates are low, but we are already seeing them start to climb as the oil industry brings more Western culture and the snowmobile and videos," says Gohdes.

Members of the Pima tribe in southern Arizona have the highest incidence of diabetes ever studied at half of all adults and as high as 85% of women over 55 and 75% of men over 55. The vast majority are diagnosed between the ages of 35 and 44, according to Gohdes' study.

"It's not just the Pimas that have such high prevalence rates," Gohdes says. "It's just that they have been studied more than anybody else. It's everywhere. It's of epidemic proportions."

Ramsey says there are unique challenges to treating Native Americans, not because they aren't aware of diabetes. "They know about it. The Native American community is totally aware because it is so familiar with it in their families because they have a sister who is blind and a cousin who is on dialysis and a father with an amputation," she says.

Ramsey says some of her patients are so imbued with that sense of fatalism they refuse to believe it when she tells them they don't have the disease. They're equally skeptical when they are

## Ready for American Diabetes Alert Day?

**H**ealth care practitioners can get on the bandwagon to bring in the undiagnosed on American Diabetes Alert Day, Tuesday, March 23.

Across the country, volunteers will distribute risk questionnaires, and in some areas, provide free glucose screening. **(For a sample handout in Spanish and English, see questionnaire, inserted in this issue.)** ■

diagnosed because they don't believe it can be controlled, Ramsey says.

She says their skepticism about controlling their diabetes may be well-founded. "When a primary care physician tells you all you have to do is totally change your lifestyle and you'll be OK, that's not realistic," Ramsey says.

Valdez says there is a sense of fatalism among Native Americans because most believe they will eventually get the disease, "So the attitude is, 'I'm going to eat and live the way I want because when I get it, everybody will tell me what to do.'"

Valdez, however, cautions health care practitioners against placing blame on people who have the disease or are obese or sedentary. "Diabetes is not a character flaw. Neither is obesity or a sedentary lifestyle," she says.

Community intervention against the disease is perhaps the best method of containing the problem, says Gohdes.

The IHS has granted \$150 million over the next five years to Native-American communities to determine for themselves how to approach the problem. Most tribes are expected to opt for primary intervention through fitness programs and school and community nutrition education projects.

The key to helping people, Valdez says, is to make role models of those who are controlling their disease and living a healthier lifestyle.

"It's an overwhelming problem," she says. "It's such an enormous problem, sometimes I wonder how people get by day to day."

*[Lorraine Valdez can be reached at (505) 248-4182. Barbara Ramsey can be reached at (510) 261-1962.]* ■

## Watch out for diabetes in hospitalized patients

*First-ever advice is offered to all comers*

**D**iabetic patients are hospitalized more often, for longer periods of time and at greater cost than patients without the disease. But sometimes the fact that they have the disease is overlooked in the process. This often leads to the detriment of patients and providers alike.

"It's a reality. When a diabetic patient enters the hospital for any reason, the focus on diabetes is frequently lost in the inpatient setting," says **Robert Stone**, MBA, executive vice-president of the Diabetes Treatment Centers of America (DTCA) in Nashville, TN.

Stone's organization has devised guidelines to help improve outcomes for the 3 million patients with diabetes who are admitted to hospitals each year.

DTCA says diabetic patients account for:

- ✓ **15% of all hospital admissions;**
- ✓ **20% of all hospital days;**
- ✓ **20% of all hospital costs.**

Diabetics spend two to three days longer in the hospital than nondiabetic patients with similar complaints, and they consume 30% to 40% more resources than patients without diabetes, Stone

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says. "In 95% of the cases, the admission has nothing to do with glycemic control. People with diabetes go to the hospital for the same reason everybody else does."

DTCA, a provider of diabetes education and management services to 69 customer hospitals in 29 states and a contractor with HMOs covering 100,000 diabetic lives, provides something most hospitals don't have: a comprehensive plan for inpatient diabetic management.

"It's a huge need," Stone says. "It's never been done, but we knew when we started this about a year ago that we could help hospital and medical staffs identify issues that contribute to the extra stays and adverse outcomes."

So DTCA assembled a panel of primary care physicians, specialists, and other health care professionals representing private practice, health plans, and institutions to develop a set of guidelines for inpatient care.

The initial recommendations were reviewed by DTCA's scientific advisory council and a panel of faculty specialists at Vanderbilt University in Nashville. In November 1998, DTCA convened a consensus conference of nearly 100 physicians and other health care professionals in Key Largo, FL, to modify and endorse the plans aimed at improving diabetic inpatient outcomes.

"Continued inattention to the unique needs of the inpatient with diabetes is both costly and professionally unacceptable," the panel wrote in a report released to *Diabetes Management*.

### ***Hospital orders may ignore dietary needs***

The panel noted that metabolic control of diabetes requires detailed attention to the patient's diet, activity, and medications in the outpatient and inpatient settings, but "too often physician orders or even a hospital's standing orders fail to take into account many aspects of the patients' pre-admission status and self-management regimen."

Whatever the condition that caused the admission, Stone points out, "Diabetes is an underlying concern. Our goal is to reduce costs by improving the health status of the diabetic population."

Hospital staffs should be able to discharge patients in better glycemic control, he explains, and avoid re-admission for infections or other complications. The panel began with these five goal recommendations:

- 1. Identify all patients with diabetes.**
- 2. Identify and address any special needs of patients with diabetes.**

### **3. Improve outcomes by optimizing glycemic/metabolic control.**

### **4. Raise the level of awareness of the health care team with respect to the unique challenges of diabetes and current standards of care.**

### **5. Strive for a length of stay equal to that of a patient without diabetes.**

The guidelines include a detailed baseline assessment to be performed upon admission by the physician, nurse, or other health care provider. They detail protocol for identification, assessment, and laboratory procedures and list the health care professional who should be responsible for each step along the way and the frequency with which each step should be carried out.

The panel recommends screening consistent with the American Diabetes Association guidelines for all patients over the age of 18 to detect undiagnosed diabetes. In the initial assessment for those with confirmed diagnoses of diabetes, the guidelines recommend a physician-performed detailed history, a documentation of

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#### **Editorial Questions**

For questions or comments, call **David Flegel** at (404) 262-5537.

symptoms of diabetes-related comorbidities, and a physical exam with emphasis on diabetes-associated findings.

These laboratory tests are also recommended:

- ✓ serum creatinine;
- ✓ ECG;
- ✓ urinalysis;
- ✓ blood or serum glucose;
- ✓ HbA1c;
- ✓ lipid profile.

Health care professionals are also cautioned to look for conditions that may require special considerations in diabetic patients, including the presence of an insulin pump, pregnancy, coronary and cerebral vascular disease, infectious disease, inpatient surgery, and diabetic ketoacidosis.

The physician and nutritionist are also advised to perform a nutritional assessment for each diabetic patient upon admission to devise a specific nutritional plan for the patient, to reassess the nutrition plan frequently, and to devise a discharge nutrition plan with the appropriate instructions and follow-up.

While the patient is in the hospital, the guidelines require optimal metabolic control, with four times daily glucose monitoring, daily review, and with a goal for fasting blood sugars at 80 to 120 mg/dl and bedtime sugars at 100-140. Blood sugars should not be allowed to exceed 200 without intervention, the panel recommended.

The guidelines also call for detailed education, discharge planning, and follow-up by the entire health care team including demonstrations of the use of blood glucose monitors, self-administration of insulin, if needed, as well as teaching patients how to check their feet. "This population is undersupported from an educational point of view," Stone says. "Our perspective is that this is an adult learning issue that needs reinforcement, support, and encouragement."

DTCA has printed 15,000 copies of the guidelines and plans to distribute them to hospitals, physicians, state licensing boards, payer networks, and anyone else who requests them.

"They are a work in progress, and we anticipate we will issue updated versions as we get additional input and feedback," Stone says.

[Copies of the DTCA Inpatient Management Guidelines for People With Diabetes can be ordered from: *Diabetes Treatment Centers of America* 1 Burton Hills Blvd., Suite 300, Nashville, TN 37215; Attention: Teresa Mabry. Fax: (615) 665-7697. Robert Stone can be reached at (615) 665-7760.] ■

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## CE objectives

*Diabetes Management* will give readers a concise, dependable method of tracking the latest developments in the field, thus helping health care professionals improve patient care by using the latest management and care techniques, particularly for high-cost, high-risk patients.

After reading *Diabetes Management*, health care professionals will be able to:

1. Identify management, clinical, educational, and financial issues relevant to diabetes management.
2. Explain how those issues affect providers and patients.
3. Describe practical ways to solve problems commonly encountered by care providers in their daily activities. ■