



# THE IHS PRIMARY CARE PROVIDER

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## Promotion of Healthier Beverages in Indian Communities

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*Jean Charles-Azure, MPH, RD, Principal Nutrition Consultant, Indian Health Service, Rockville, Maryland; and Elaine Little, MS, RD, Nutrition Educator, IHS Clinical Support Center, Phoenix, Arizona*

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### Introduction

This position paper addresses the excessive intake of soft drinks in the American Indian communities that we serve, and its profound negative impact on health. Inasmuch as the Director of the Indian Health Service has named Health Promotion and Disease Prevention to be a priority for the Agency, all staff members, including health administrators, nutrition professionals, dental and nursing staff, health educators, and community health representatives, should make a serious effort to decrease this excessive consumption.

### Background

In the U.S., the consumption of soft drinks has tripled since the 1990s.<sup>1</sup> Not only do we lead the world in per capita consumption of soft drinks, we are also the most overweight nation in the world. The standard serving size for soft drinks in the 1950s was 6.5 oz; in the 1990s it was 20 oz. Surveys show that today many individuals in the U.S. drink one to three of these drinks per day, frequently choosing the 48 oz to 64 oz sizes at fast food or convenience stores. Advertising and pricing encourage the purchase of these large servings.<sup>2-6</sup> According to a 2001 article from Science for the Public Interest, Americans spent over \$61 billion on the 15 billion gallons of soft drinks produced by industry.<sup>1</sup> A typical person in the U.S. consumes on average the equivalent of 31 teaspoons of sugar a day, 20 percent more than the level consumed 20 years ago.

From a nutrition perspective, soft drinks contribute sugar, calories, phosphorus, and water to the diet. In the U.S., sugar-sweetened soft drinks containing fructose and sucrose contribute on the average more than 7 percent of calories. Fructose is found in many fruits and also comes from starch. High-fructose corn syrup is popular and inexpensive, and is produced by using an enzyme that converts glucose to fructose, which is sweeter, and is used in most soft drinks. One 12-oz drink contains an average of 10 teaspoons of sugar and 150 Kcal. Sucrose, called “table sugar” or simply “sugar,” is made from sugar beets or sugar cane, and is mostly used for baking.

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The U.S. Department of Agriculture (USDA) recommends that people requiring 1600 calories a day should restrict their consumption of refined sugar to six teaspoons a day (12 teaspoons for those requiring 2200 calories, and 18 teaspoons for 2800 calories).<sup>2</sup> A drink of Mountain Dew contains 46 grams of sugar (approximately 12 teaspoons), Coke 39, Squirt 37, and Pepsi 27.<sup>3</sup>

In Indian communities throughout the U.S., people of all ages are experiencing more health problems than ever before, and much blame can be attributed to the high consumption of carbonated beverages.<sup>4-6</sup> Children and adolescents are at greatest risk; not only do they have the highest consumption of soda pop but, conversely, they drink less milk, fruit juices, and water. Over-consumption of sugary soda drinks can set them on the pathway to overweight or obesity at an early age, and to dental enamel erosion and caries, osteoporotic bone fractures, caffeine dependence, and nutritional deficiencies of vitamins, minerals, protein, and fiber. Researchers have found that drinking even one soft drink per day significantly increases their risk for later development of diabetes.<sup>7</sup>

Many nutritional surveys have reported the growing frequency of soft drink consumption by children. The reports frequently point to vending machines in public schools as a major contributor to the problem. Students are tempted to buy soft drinks from the machines that include fruit and juice drinks with less than 50% juice, and sports (electrolyte replacement) drinks with added sugars. Media attention has focused on several states that are taking a public stand on this issue by passing legislation to ban the sale of such drinks in schools, but young people are still tempted by the displays for their sale in stores, at school-sponsored events, in fund drives, at food stands, and in urban health centers. Several studies have found that American Indian and Alaska Native adolescents consume soft drinks at more than twice the U.S. national average rate.<sup>8</sup> One 12-year-old reported drinking a six-pack of regular soda per day "because he was thirsty all the time." This behavior presents an especially severe problem in areas of poverty, where drinking water is not readily available, and food choices are limited by lack of refrigeration. The results in these areas are alarming, both for the increase in overweight, obesity, and diabetes, and for the lack of needed nutrients. The health of present and future generations of Indian people is seriously threatened.

### **Harmful Effects of Soft Drinks**

*Tooth decay.* Oral disease rates in AI/AN are 2 - 3 times those of the non-Indian population. This may be due in part to lack of access to preventive, restorative, and periodontal care, but poor diet also plays an important role. According to the 1999 IHS Oral Health Survey, 79% of AI/AN children aged 2 - 5 yrs. have tooth decay; the prevalence increases with age to 87% at 6 - 14 yrs., and 91% at 15 - 19 yrs. Adults aged 44 yrs. have a 78% prevalence, and those aged 55 or older have lost at least one tooth due to tooth decay, gum disease, or other trauma.<sup>9</sup>

Carbonated soft drinks can erode tooth enamel surfaces, leading to cavities. Carbonic, phosphoric, and citric acids in the drinks dissolve calcium, especially in the teeth of children who sip them continuously. Continuous sipping throughout the day allows time for resident oral bacteria to begin to break down the sugars in the drink to form more acids, hastening the development of the tooth decay.<sup>10</sup> Tooth enamel starts to dissolve when the pH level in the mouth drops below 5.5, and all sodas have an acid level much stronger than 5.5: Coke Classic has a pH of 2.53, and Pepsi 2.49. Orange juice has a pH of about 3. As a comparison, battery acid has a pH of 1.00.

*Weight.* Several pediatric studies have found sweetened drinks to be the primary source of added sugar in the daily diet of children. Moreover, taking in calories in a liquid form appears to encourage over-consumption.<sup>11</sup> Obesity is a risk factor for diabetes, high blood pressure, high cholesterol, and cardiovascular disease. When AI/AN children reach adolescence, their chances of being diagnosed with diabetes are greater than for non-Indian adolescents. This presents a challenge to many communities that are already struggling with diabetes. The excess calories from sugary drinks can cause obesity if consumed excessively, and this is exacerbated by lack of physical activity. Excess weight, defined as a body mass index (BMI) between the 85<sup>th</sup> and 95<sup>th</sup> percentiles of the U.S. population, is now the most common medical condition of AI/AN children. Studies indicate that obesity rates for AI/AN children, adolescents, and adults are higher than rates for the U.S. population.<sup>6</sup> Age-specific prevalence of overweight ranged from 61% to 78% in 20- to 64-yr-old men and from 81% to 87% in women of the same age.<sup>9</sup>

*Low Bone Mass/Osteoporosis.* Milk has a high content of easily absorbed calcium, together with nutrients that include vitamins D, A, and B12; riboflavin; and protein, all essential to bone and tooth development.<sup>12</sup> To replace milk with sweetened drinks can consequently increase the risk of osteoporosis and fracture, especially when the amount of phosphorus in some sodas is sufficient to stimulate parathyroid hormone, which extracts minerals from bone.

Even without soft drinks, regular consumption of dairy products is a challenge for many AI/AN people. Widespread lack of refrigeration, infrequent shopping, and a high prevalence of lactose intolerance make it difficult to include dairy products in the diet. Limited milk intake, especially during adolescence, limits calcium intake and thus jeopardizes the accrual of peak bone mass at a critical time in life. Nearly 40% of peak bone mass is accumulated during adolescence, when a 5 - 10% deficit in the mass may lead to a 50% increase in the risk of hip fracture later in life. Both hip and other bone fractures increase with age.<sup>2</sup> Only 13.5% of girls and 36.3% of boys 12 - 19 years of age take in the recommended daily amount of calcium.<sup>2</sup> It is hardly surprising that girls who drink sodas are 5 times more likely to suffer bone fractures than those who don't.

Several methods are available to measure bone density. The most widely used technique is DEXA (Dual Energy Xray Absorptiometry). The “normal” range of bone density measured by DEXA has been determined for Caucasian adult women but not for AI/AN people.

*Caffeine Dependence.* The discussion about caffeine is wide open; many are concerned about caffeine and children. Therefore, the following maximum intake guidelines are offered.

1. Healthy adult: up to 6 mg/kg/day (400 mg/day)
2. Female, reproductive age: <300 mg/day (4.6 mg/kg/day)
3. Children: <2.5mg/kg/day.

A 12-oz soda may contain as much as 35 - 55 mg of caffeine. Mountain Dew has 55 mg, SunKist orange soda 40 mg, Coke 45 mg, and Pepsi 37mg. This is enough to cause anxiety, and mood and sleep problems. Caffeine also increases the excretion of calcium in urine, thus increasing the risk for osteoporosis.<sup>13</sup>

### What are Indian communities doing to reduce soft drink consumption?

1. In 2001, the Alaska Native Tribal Health Consortium and the Alaska Native Health Board started a campaign to heighten awareness of the harmful effects of sugared soda consumption. The campaign included letters from board members to community grocery store managers, and issuing a “symbolic” report card to schools with two “D”s for decay and diabetes.
2. School board members in Larsen Bay, Alaska agreed to replace soda with water in the schools after two health aids who had attended diabetes training classes gave a presentation on the increasing rates of diabetes and tooth decay in children. This has had a great impact on the community and the school board members.
3. The TSE’ NITSAA DEEZ’A’HI’ DINE’ BI’O’LTA’ Rock Point Community School in Arizona has made it a policy that there will be no consumption of soda pop or any drinks that contain excessive amounts of sugar on school campus.
4. The Kayenta Service Unit Health Advisory has sponsored a National Public Health Week on Healthy Life, and gives educational facts on soda pop on the Internet. Go to [www.kayentahealth.com/ppopandkids.htm](http://www.kayentahealth.com/ppopandkids.htm).
5. The Lummi Nation and the Lummi Indian Business Council approved and signed a resolution designed to encourage healthy beverage choices to reduce health care problems and costs. The council is requesting an educational campaign regarding the resolution before its implementation in May 2005.

6. Fort Peck, Montana, students boycotted school lunch to get soda machines replaced with bottles of water, and to get a salad bar.
7. The IHS in Arizona and New Mexico has made efforts to decrease soda consumption. The Hopi Nation has replaced unhealthy drinks in vending machines with healthier ones, and is still making money on the sales. Santa Fe has removed all school vending machines. A dietitian in New Mexico, who requested to remain anonymous, presented a nutrition project as a fundraiser. The project offered nutritional alternatives to the usual sodas and candy, such as yogurt, trendy flavored milk drinks, blenderized drinks with fruits and low-fat milk and ice, caramel-dipped apples (or caramel dip in cups for apple slices), chocolate-dipped frozen banana halves, pretzels, dried fruits, and fruit chips. Their fundraiser was a huge success, making more profit than they had ever done in the past. Seeing more people eating and drinking the nutritional snacks might have had more than a little impact. Whatever it was, it worked.
8. Several tribal health directors have stated the need for positive role models for their children in the choices of healthy beverages. U.S. surveys of youths aged 13 -18 identified parents as the best role models for young people. Role models can be a powerful influence for the good in children’s lives, teaching good behavior and values.
9. According to AI/AN community surveys, parents favor removing sodas from vending machines in schools and replacing them with more water, diet sodas, juices, fat-free and reduced-fat milk, a variety of flavored milk drinks, and 100 % fruit juices.

Attention needs to be focused on nutrition education and particularly on environments that support healthful food choices for children; just knowing about healthier foods will not make a child choose them. Cost, peer pressure, and availability are all matters for consideration.



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## Summary

Soft drinks contribute to many health problems. These include overweight, diabetes, dental enamel erosion and caries, osteoporotic bone fractures, and nutritional deficiencies. Various tribal communities have implemented programs designed to reduce consumption of sodas, with the goal of reducing health problems.

IHS Nutrition Professionals recommend the following measures.

1. Recognize Indian community members who can be key players in the planning and implementation of strategies to decrease soda pop consumption.
2. Plan intervention strategies that are consistent with the local traditional values. This is essential for success in modifying health-related attitudes and behavior changes. A locally held focus group consisting of tribal community members (facilitated by health staff) can provide the direction for the interventions. Consider all public locations where interventions are needed, such as in IHS/tribal health centers, school vending machines, and hospital cafeterias.
3. Educate patients, families, communities, and health staff on healthy eating, healthy beverage selection, and dental hygiene. Empower children to be in control of their health by teaching them to make positive decisions with regard to nutrition and physical activity, for example, drinking water instead of sodas.
4. Inform community members that soft drinks can be bought in non-sealable containers to discourage the practice of sipping throughout the day or over an extended period of time, as this is a major cause of tooth decay.
5. Involve parents, teachers, students, families, grocers/vendors, law enforcement, health professionals, and people involved in community programs in discussions of the promotion of healthier food and beverage choices.
6. Referrals should be made to dental clinics, registered dietitians, health education, and community health representatives; public health nurses should assist in encouraging healthier beverage selection by both the community and individuals.
7. Nearly 100% of 16 Indian communities in Arizona have organized physical activity programs, and the schools are consistent sponsors of the Tribal Diabetes Prevention Project, funded by a SDPI grant. Communities are advised to contact some of these programs to increase the numbers of physical activity programs in schools, community centers, and work places.
8. Evaluate the outcomes of your program's efforts to decrease the intakes of soft drinks and soda in your area.

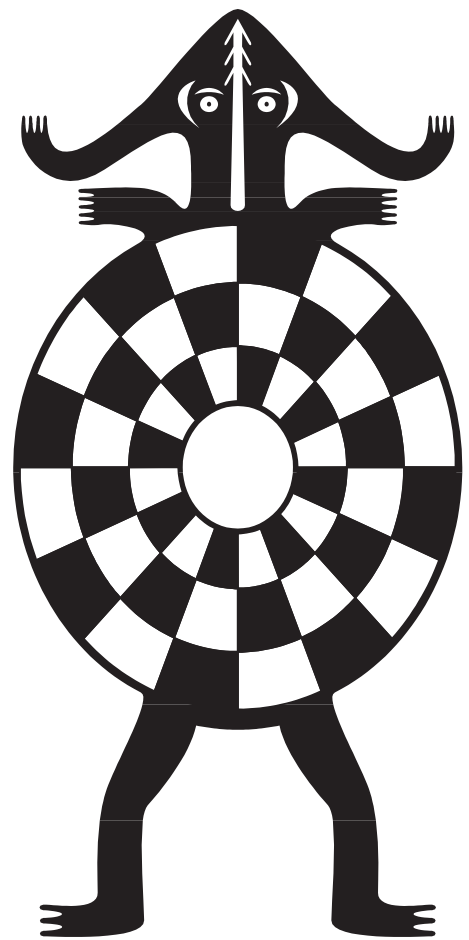
This position paper was reviewed and endorsed by the following programs:

IHS Nutrition Program  
IHS Division of Oral Health  
IHS National Oral Health Council  
IHS Division of Diabetes Treatment and Prevention  
IHS Community Health Representative Program  
IHS National Council of Nursing Services

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# “G” Methamphetamine on the Navajo Nation: A Film Documentary

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*Michelle Archuleta, MS; Cynthia Denny; and Joann Kim, MD, all from the Tuba City Regional Health Care Corporation, Tuba City, Arizona*

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“G’Methamphetamine on the Navajo Nation” is a compelling documentary that examines the effects of crystal methamphetamine (also known as “G,” glass, or meth) use on the Navajo Nation. This article gives the background of how and why the Tuba City Regional Health Care Corporation (TCRHCC) Health Promotion/Disease Prevention (HP/DP) Program initiated the project. It also explains the lessons that were learned through undertaking this venture. Michelle Archuleta (Paiute/Shoshone, Irish/German) Director of the HP/DP Program, states, “This film offers Native communities a rare opportunity to see first hand how methamphetamine use can destroy families and their dreams. This documentary offers the viewer a visual medium for generating public awareness and helps to bring attention to how prevalent meth use is on the Navajo Nation. This film is truly a community effort, and we hope that it offers families an opportunity to begin talking with one another about methamphetamine use.”

The documentary was a first start in the HP/DP efforts of the TCRHCC to bring public awareness and attention to the growing trend of methamphetamine use on the Navajo Nation. Candid interviews of “meth” addicts and those in recovery are introduced throughout the film to reveal the emotions, sacrifices, and life altering impact of the drug. The documentary also offers thought-provoking comments from leading experts in the fields of law enforcement and health care, including Mr. Greg Adair, Tuba City Senior Criminal Investigator; Dr. Thomas J. Drouhard, TCRHCC physician; and Mr. Frank Dayish, Jr., Navajo Nation Vice-President. Unlike any other film, “G’ Methamphetamine on the Navajo Nation” shows how the drug affects the user as well as the families, communities, and the people of the Navajo Nation.

The initial development of the documentary started when the HP/DP Program in Tuba City started looking at how to help schools, teachers, and parents learn more about signs and symptoms of methamphetamine use. Shannon Tracey (Navajo), School Health Coordinator for the Tuba City HP/DP Program, was instrumental in bringing this issue to the attention of the HP/DP Director, Michelle Archuleta. Together they decided the best way to approach this effort was to bring together interested advocates from the

community, schools, neighboring Hopi Tribe, parents, law enforcement, and hospital staff to learn more about how methamphetamine use was affecting the community of Tuba City and the neighboring Hopi community, the village of Moenkopi. As a result, in spring 2004, the HP/DP Program organized community conversations and invited the public to begin organizing “next steps” to address the use of methamphetamine in Tuba City. Out of these community discussions, several consistent themes of concern emerged. These issues included the need for political action and law enforcement, the development of current school policies on student “meth” use, the identification of personal testimonies involving families affected by the drug, and the need for increasing public awareness of the problem.

With “next steps” identified and priorities set, the HP/DP Program moved forward to address the concerns. The HP/DP Program took on the task of developing a prevention public awareness campaign for the community and decided that using media messages, radio public service announcements, billboards, and a documentary style film featuring Navajo meth addicts and recovering addicts would be the best ways to proceed. Mr. Shonie De La Rosa (German Jewish/Navajo) was selected as the film director for the public awareness project, and he set out during summer 2004 to research, obtain interviews, and compile the film documentary, “G’ Methamphetamine on the Navajo Nation.” With the commissioning of the film to Larry Blackhorse Lowe of Blackhorse Films and Shonie De La Rosa of Sheephead Films, public service announcements for television and radio, as well as the documentary film were created. Shonie De La Rosa, along with his wife Andee (Navajo), began the important work to recruit and set up interviews with law enforcement officials, Navajo Nation political officials, and hospital staff, and captured on film insights and experiences from meth addicts and recovering addicts who would be interested in sharing their stories.

The documentary premiered at the 29th Annual American Indian Film Festival in San Francisco and was awarded the ‘Best Public Service’ award. Over the past 29 years, the American Indian Film Institute has screened over 800 films and videos from American Indian and Canada First Nation communities, including many works unavailable in the United States through movie theatres, home video, or television. “G’ Methamphetamine on the Navajo Nation” is among a select group of films to be screened at this year’s American Indian Film Institute Festival. Ms. Eunice Begay

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(Navajo), President of TCRHCC Board of Directors, said, "We are honored to have the film considered by the Institute. It is a remarkable documentary that has the power to heal and strengthen our community."

As part of an outreach effort between the HP/DP Program and the Department of Community Health Services, a schedule of film screening premieres was established at each of the eight Navajo Nation service units to promote the documentary film and begin the work of educating and informing each community about the rise of methamphetamine use. Utahna Brown (Navajo) served as the project coordinator for each premiere, working with Navajo Area HP/DP Programs to set up the events, and assisting in the recruitment of panel presenters for a question and answer session following the film. She also took the lead in making the documentary film available to native tribes for dissemination and distribution to community members. Following each premiere an evaluation form was distributed soliciting feedback from the audience. The survey form is shown on page 151.

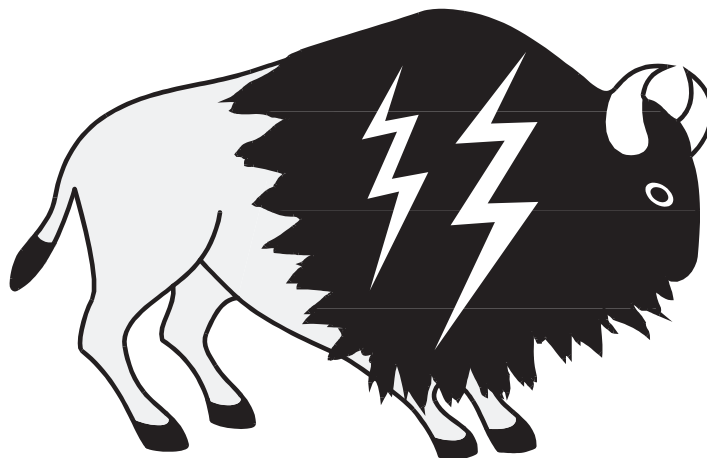
Lessons learned from this project are many. It has been a collaborative effort from start to finish, with many partner organizations playing key roles in helping our Navajo Nation chapters and community members learn more about methamphetamine use. What started out as simply trying to educate and inform the community about methamphetamine use quickly transformed into a community concern demanding action. Under pressure from local and federal law enforcement officials, the Navajo Nation Tribal Council passed a bill this year to make the possession or sale of a controlled substance, including methamphetamine,

punishable with up to a year in tribal jail and a \$5,000 fine. Prior to this bill, there was no law on the books to criminalize the sale, possession, or manufacture of methamphetamine on the Navajo Nation at the tribal level. Another lesson learned was the realization that many families did not know how to access help for addiction recovery. With the focus on educating the public on the signs and symptoms of methamphetamine use, we discovered that there were limited resources and other barriers to accessing care that would help addicts in their battle with methamphetamine addiction.

All in all, this has been a journey that has brought our Navajo Nation communities together; it has bridged the gap between age, gender, substance abuse addictions, territorial boundaries, agendas, and culture. We have learned how to show compassion, applaud courage, take a stand, and speak to have a voice. And most importantly, as Margaret Wheatley states in her book titled, "Turning to One Another," we have seen first hand how, "There is no power greater than a community discovering what it cares about."

#### **How to order the film**

"G" Methamphetamine is available on VHS or DVD. Order forms are available at the website <http://www.tcrhcc.org>. At the bottom of the screen click on "Programs," then click on "Health Promotion." At the bottom of the next screen click on "Film Order Form." In addition, you can contact the TCRHCC Community Health Services Department at (928) 283-1300 for more information.



### METH DOCUMENTARY EVALUATION FORM

Please circle the answer that most closely describes your response to each question. (circle only **ONE** answer)

1. I believe that meth use is a problem on the rez.

Strongly agree                      Agree                      Somewhat Agree      Disagree

2. The film helped me to better understand how meth affects people.

Strongly agree                      Agree                      Somewhat Agree      Disagree

3. The open panel discussion after the film helped me to better understand what meth is and what it does.

Strongly agree                      Agree                      Somewhat Agree      Disagree

4. I would recommend this film to others.

Strongly agree                      Agree                      Somewhat Agree      Disagree

5. I know at least one current meth user.

Yes                      No

6. My age group is:

13-17                      18-25                      26-44                      45-64                      65 and above

7. Gender:              Male                      Female

8. My community of residence is: \_\_\_\_\_

Other topics I would like to see addressed include:

\_\_\_\_\_

\_\_\_\_\_

Additional Comments:

\_\_\_\_\_

\_\_\_\_\_

#### Over 800 surveys were returned. Total results are as follows:

Question 1. I believe that meth use is a problem on the rez. 94% of respondents strongly agreed/agreed with this statement.

Question 2. The film helped me to better understand how meth affects people. 88% of respondents strongly agreed/agreed with this statement.

Question 3. The open panel after the film helped me to better understand what meth is and does. 86% of respondents strongly agreed/agreed with this statement.

Question 4. I would recommend this film to others. 91% of respondents strongly agreed/agreed with this statement.

Question 5. I know at least on current meth user. 46% of respondents checked "yes."

Question 6. Almost 70% of viewers were between 26 and 64 years of age.

Question 7. 70% of respondents were female.



The following article was written by the TCRHCC Wellness Committee for health education purposes. The article is geared towards the local public and written at an appropriate reading level. It was recently printed in a local newspaper that serves the Western half of the Navajo Reservation.

## **Methamphetamines: What can I do to protect myself and my community?**

Native American reservations, including the Navajo reservation, have seen a huge increase in the use of methamphetamines (meth) in the past two to three years. According to the Navajo Division of Public Safety in Tuba City, each of the four murders that took place in Tuba City last year involved meth. How can you tell if someone is using meth? And what can you do to help someone who wants help? Read on to learn more.

### **What is meth?**

Methamphetamine is a stimulant drug that directly affects chemicals in the brain. These changes in the brain affect many other parts of the body. Meth comes in pills, capsules, powder and chunks. A pure form of methamphetamine, which looks like large, clear crystals that resemble chunks of ice, is called crystal meth and is also referred to by such slang words as "ice," "glass," or "G." The drug is taken in several ways. It can be eaten, snorted, smoked, and/or injected directly into the bloodstream. Meth on the Navajo reservation often comes from Phoenix or California, but some is also made here on the reservation.

### **What can meth do to you?**

Methamphetamine stimulates the brain, and the effects of the drug can last anywhere from 8 to 24 hours.

Possible effects of meth are listed below.

#### Short term effects:

- immediate "rush" (feeling 'high') that lasts for a short time
- rapid increase in pulse rate and blood pressure
- stays awake for long periods of time (24 hours) and talks a lot
- easily gets into arguments, easily gets angry
- feels like other people or things are out to get them
- sees people or things that aren't there
- seizures
- loss of appetite and nausea
- grinds teeth
- rapid eye movements and widened pupils

#### Immediate life-threatening effects:

- stroke
- heart attack
- death from seizure

#### Long term effects:

- severe weight loss
- possible brain damage

- damage of skin and open sores (from picking at insects imagined to be on the skin)
- hair loss
- rotting teeth
- depression
- feels worthless and thinks about committing suicide

#### Effects of the drug on pregnant women and their babies:

- miscarriage
- birth defects
- low birth weight
- the baby can be very cranky and have possible learning disorders

### **What do you do if you are around someone on meth?**

Once users stop taking the drug, they become very depressed, and can think that other people or things are out to get them. They also become angry very easily and often get into fights. This phase is called "tweaking." Tweakers are more likely to become violent because they haven't slept in days and are very irritable. Here are some important tips to remember to help protect yourself: Don't make the person more angry. Keep some distance (about 7-10 feet) from the user, slow your speech and lower your voice, move slowly, and keep your hands where they can be seen.

### **What if I know of or suspect a meth dealer or maker?**

Contact your local police department or department of criminal investigation.

### **Where can I get help for someone I know?**

Contact your local Department of Behavioral Health Services (DBHS) or Mental Health Department.

### **How can I help educate my community about meth?**

An award winning educational documentary, titled "'G' Methamphetamine on the Navajo Nation," has been released. Copies of the film are now available for purchase. Please contact the Tuba City Regional Health Care Corporation Community Health Services Division at (928) 283-1300/2404 for further information.

### **By: TCRHCC Wellness Committee**

The Tuba City Regional Health Care Corporation (TCRHCC) Wellness Committee is a group of health care providers, administrators, and community members whose aim is to promote health and wellness.

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# Attention Is Good Medicine

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*CDR Nancy M. Halonen, BSN, CDE, Formerly at the Santa Fe Indian Hospital, Santa Fe, New Mexico; currently Nurse Officer/Public Health Advisor, CDC/NIP, Florida Department of Health Bureau of Immunization, Tallahassee, Florida*

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## Introduction

Diabetes affects approximately 15.7 million people in the United States (5.9% of the population) and is expected to increase with the new diagnostic criteria. Native Americans and other minorities are at greater risk for developing diabetes. Epidemic in proportion, the prevalence of Type 2 diabetes among Native Americans in the United States is 12.2% for those over 19 years of age and rising.<sup>1</sup>

The direct and indirect costs of diabetes in the United States for 1997 were estimated to be \$98 billion. This includes \$44.1 billion in direct medical and treatment costs and \$54 billion for indirect costs based upon disability and mortality.<sup>2</sup> The costs for future treatment can only increase.

The major complications of diabetes include kidney failure, blindness, amputations, and heart disease. Ten to twenty-one percent of all people with diabetes develop kidney disease. The rate of end-stage renal disease among Native Americans with diabetes is six times higher than that for all people with diabetes. The risk of a leg amputation is 15 to 40 times greater for a person with diabetes. The rate of amputations among Native Americans is 34 times higher than the general population.<sup>1</sup>

The Diabetes Control and Complications Trial has shown that tight control of Type 1 diabetes, as defined by having a HgbA1c less than 7%, can reduce the rate of developing retinopathy, nephropathy, and neuropathy by 76%, 54%, and 60% respectively. Even with moderate control of diabetes, as defined by having an HgbA1c of 8% or less, the reduction of complications was significant. Once HgbA1c levels were over 8%, the rate of complications escalated. Although these results were demonstrated in patients with Type 1 Diabetes, it is felt that they would be similar in Type 2 Diabetes, as complications are basically the same in all types of diabetes.<sup>3</sup>

The United Kingdom Prospective Diabetes Study (UKPDS) demonstrated that the risks of complications could be significantly reduced, even in the range of hyperglycemia where HgbA1c levels were less than 8%. The results of the study showed a continuous relationship between the risks of microvascular complications and glycemia, such that for every percentage point decrease in HgbA1c e.g., (9% to 8%) there was a 35% reduction in complications. Furthermore, the UKPDS results establish that retinopathy, nephropathy and possibly neuropathy are benefited by lowering blood glucose levels in Type 2 diabetes mellitus with intensive therapy that

achieved a median HgbA1c of 7% compared to conventional therapy with a median HgbA1c of 7.9%. The overall microvascular complication rate was decreased by 25%.<sup>4</sup>

The goal of the Santa Fe Indian Hospital (SFIH) Diabetes Case Management Project was to evaluate the effectiveness of a case management approach to diabetic control, which included intensive counseling and interventions through the service of a Certified Diabetes Educator (CDE). Intensive counseling entailed reinforcing dietary changes, use of self-blood glucose monitoring, medications, appointment compliance, exercise initiative, and lifestyle changes to empower patients in the management of their disease.

## The Study

One hundred and four patients with Hgb-A1c results greater than 7.0% were referred by the primary care provider to the CDE for assessment and provision of educational needs, and to arrange visits to other members of the interdisciplinary team. The multidisciplinary team included the CDE, pharmacist, dietitian, lipid clinic specialist, podiatrist, optometrist, and physician.

The CDE evaluated the patients' level of understanding of diabetes. An educational plan and appropriate goals were established mutually between patient and CDE. Follow-up appointments were based on lesson plans pertaining to each person's needs. Topics that were discussed were the definition of Type 1 and Type 2 Diabetes, the pathophysiology of diabetes, self-management of home glucose monitoring, medications, exercise, nutrition, and lifestyle changes, all of which can favorably impact the diabetic. Also covered were the effects of stress on the diabetic, and sick day protocols.

All visits were recorded on a preprinted PCC. The Diabetic Health Summary served as a flow sheet to review annual patient needs as defined by the IHS DM standards. All patients entering the study were given a baseline HgbA1c test, which measures the average blood sugar over a 90-day period and indicates what type of control the patient has had over this time period.

All patients were given a follow-up HgbA1c test between 3 and 6 months later to see if any change (reduction in HgbA1c) had taken place in the glucose control. All 104 patients in the study remained on their regular medication regimen, with no medication changes, except for one patient who had her oral medication discontinued at the onset of the study because of increased liver function values. No other medication changes were initiated for these patients during the study. Patients entering the study on no medication or those who were already on a medication for more than a year without any significant improvement were kept on the regimen throughout the study period.

In addition to the HgbA1c test, patients were asked the following questions during the follow-up period:

1. Did patient exercise as instructed by the educator?
2. Did patient utilize CDE follow-up at 3 months?
3. Did patient apply DM healthy eating choices as instructed by educator?
4. Was podiatry appointment kept?
5. Were monofilament foot exam provided and foot care instructions given by educator?

### Statistical analysis

*Relation between Exercise and Hgb-A1c.* All 104 patients were divided into two groups according to their answer to the question “Did patient exercise as instructed by educator?” Ninety-one of them answered “Yes,” and thirteen of them answered “No.” For each group, the mean change in HgbA1c from baseline of was calculated and compared.

*Relation between Diet and Hgb-A1c.* All 104 patients were divided into two groups by their answer to the question “Did patient apply DM healthy eating choices as instructed by educator?” Eighty-eight of them answered “Yes,” and sixteen of them answered “No.” For each group, the mean change in HgbA1c from baseline was calculated and compared.

These results are summarized in Table 1 below .

### Discussion

The average HgbA1c of the group at the start of the study was 10.58%. The average HgbA1c 3 - 6 months into the program was 8.3%, a drop of 2.3 %. Several patients who had a very high HgbA1c (13% or greater) dropped to a range of 5.8% to 6.9%. One patient who started the program with an HgbA1c of 8.5%, and who discontinued medication two weeks into the program due to increased liver function tests had a fall in the HgbA1c to 6.5% with only lifestyle change. Many patients were followed beyond this study and continued to maintain a healthy HgbA1c (less than 7%).

As patients returned for follow-up visits, the CDE was able to obtain appointments for them for needed yearly health care (dental, gynecological, podiatry, optometry), and stressed the importance of making to these necessary visits. Overall compliance improved when attention was paid to the importance of personal commitment to health. The CDE stressed proper

immunizations, performed monofilament foot exams if needed, and made referrals to podiatry, dental, optometry, and lipid clinics. The CDE ensured patients had access to all necessary avenues of health care if the flow sheet indicated a need.

### Conclusion

The results achieved in this study resulted mainly from the patients’ lifestyle changes: effective and mindful eating, nutritional awareness, exercise initiative, stress reduction, and commitment to relationships with health care providers.

The reduction of the average HgbA1c from 10.58 to 8.3% in the 104 participants, with much greater reductions in a few individuals, by the simple but powerful application of attention and instruction is most encouraging and quite affordable. Case management of the diabetic client with intensive education, encouragement, and attention to all facets of patient health can result in greater overall health and fewer complications for the diabetic client and can empower the patient with a commitment to health for the rest of their life. The favorable outcome derived from case management could be extremely useful and cost-effective and could reduce the client load for providers treating diabetes-related illnesses. Diabetes education works. Attention is truly a most powerful medicine.

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**Table 1. Change in HgbA1c and responses to questions about diet or exercise**

Question	Did patient exercise as instructed by educator?		Did patient apply DM healthy eating choices as instructed by educator?	
	Yes	No	Yes	No
Number of patients	91	13	88	16
Mean Change from baseline	-2.72	+1.15	-2.83	+1.03
P-Value (t-test)	<0.0001		<0.0001	

As shown in the table above, there were significant differences between groups, with p-values of less than 0.0001. The HgbA1c of the group who said they exercised *decreased* by 2.72, while that of the “No” group *increased* by 1.15. The HgbA1c mean of the group who said they followed dietary instructions *decreased* by 2.83, while that of the “No” group *increased* by 1.03.

# Is Online Training a Viable Option for IHS Injury Prevention Personnel?

*Larry Carlson, Online Instructor, Injury Prevention Department Skill Center, United Tribes Technical College, Bismarck, North Dakota; Lawrence Berger, MD, MPH, Academic Director, IHS Injury Prevention Fellowship Program, Albuquerque, New Mexico; and Deb Stone, MPH, MSW, Project Director, National Center for Suicide Prevention Training, Boston, Massachusetts*

## Introduction

Providing high-quality continuing education opportunities for professional staff is an important goal for program managers. The Indian Health Service Injury Prevention Program (IHS IPP) sponsors many courses, both nationally through the Environmental Health Support Branch (accessed at [www.opheng.gov](http://www.opheng.gov)) and at the Area level.<sup>1</sup> A year-long

fellowship program is also offered, requiring attendance at four courses at various locations around the country and completion of an individual epidemiologic or intervention project.

These “face-to-face” courses are expensive, both in terms of direct costs (instructors, travel, materials) and time away from family and work responsibilities. These costs are particularly great for IHS staff, because of their wide geographic distribution and recent cutbacks in travel and training dollars.

Internet-based (or “online”) trainings offer many potential advantages, but also have drawbacks (Table 1). We investigated online training as a continuing education option for IHS IP staff by encouraging them to complete a free online course. We then tracked their response to the notice, and elicited their reasons for participation or nonparticipation.

**Table 1. Relative merits of online vs. “face-to-face” training**

	Advantages	Disadvantages
<b>Temporal Convenience</b>	<ol style="list-style-type: none"> <li>1. Except for synchronized discussions, work can be done any time of the day. Many online courses allow participants to work at their own pace and to interrupt or resume their sessions at any time. This is particularly useful for professionals with busy schedules.</li> <li>2. Transportation time is eliminated with online courses.</li> </ol>	Many online students are unused to independent study and work better within the context of a regularly-scheduled classroom or meeting.
<b>Spatial Convenience</b>	Online courses can be done while traveling, at work, or at home.	<ol style="list-style-type: none"> <li>1. Some students are motivated by going to a specific location designed for academic work.</li> <li>2. Some students find it difficult to fully focus upon a course in the home or work environment.</li> </ol>
<b>Cost</b>	<ol style="list-style-type: none"> <li>1. Many agencies offer training courses that are free or comparatively inexpensive.</li> <li>2. Transportation, housing, and meal costs are usually eliminated.</li> </ol>	Online courses offered by academic institutions and for-profit groups are often as expensive or more expensive than classroom courses.
<b>Quality</b>	<ol style="list-style-type: none"> <li>1. Online courses often place a greater emphasis upon the learner’s experience, observations, and opinions. Such a milieu can be particularly suitable for professionals.</li> <li>2. Online courses generally make greater use of related online sites than do traditional face-to-face training courses.</li> <li>3. Online learners are more likely to be exposed to people from a wider and more diverse cultural/intellectual background than those found in more traditional learning environments.</li> </ol>	<ol style="list-style-type: none"> <li>1. Online courses lack the close personal contact provided at meetings or in the classroom (gestures, facial expressions, etc.).</li> <li>2. Online courses often do not offer as much audio-visual variety, experiential instruction, communication with other learners, and feedback from instructors.</li> </ol>
<b>Range of topics</b>	More and more courses are being offered online. Learners can pick from a large number of topics and academic institutions.	It is not always feasible to take work towards a particular degree via online training.

## Methods

High quality, online courses are expensive to produce. They require developers with expertise in topical content, educational methods, and computer software and hardware. Rather than trying to create a new course, we chose to offer a superb, existing one. The National Center for Suicide Prevention and Training (NCSPT) had produced three online workshops, all available on the Internet without charge ([www.ncspt.org](http://www.ncspt.org)). We chose to recruit participants for the workshop entitled “Locating, Understanding, and Presenting Youth Suicide Data” for several reasons. First, a major role for IHS IP staff is obtaining, analyzing, and reporting data for community use. The course covered aspects of data that are applicable not just to suicide, but to all aspects of public health. Second, the IHS IPP is increasing its focus on intentional injuries — domestic violence, suicide, and assaults — making continuing education in this area a high priority. Third, NCSPT (a collaboration between the Harvard Injury Control Research Center and the Education Development Center) had developed

the course with national experts in epidemiology and suicidology, and conducted beta-testing to refine the workshops.

We identified current IHS IP practitioners from the Injury Program website ([www.dehs.ihs.gov/noinjuries](http://www.dehs.ihs.gov/noinjuries)) and through personal communication with the Injury Prevention Program Manager, Nancy Bill. We then sent an e-mail to the target group announcing the course, describing what the online workshop offered, the time required, and the benefits of completing the course. The e-mail was signed by the IP Program Manager and the Academic Director of the IHS IP Fellowship Program (Figure 1). Another e-mail was sent one month later, reminding recipients about the course and again encouraging their participation.

Three months later after the first e-mail, we sent an e-mail requesting completion of a follow-up survey. To increase the response rate, we made phone calls and sent additional e-mails to nonresponders. The phone calls also allowed us to determine whether the original e-mail addresses were

**Figure 1. Recruitment e-mail**

Dear IHS Injury Prevention Professional:

**We strongly encourage you to take a free online course, “Locating, Understanding and Presenting Youth Suicide Data,” at [www.ncspt.org](http://www.ncspt.org).**

### **Why take this course?**

- You will learn a lot, or refresh your knowledge, about injury epidemiology and statistics, public health interventions, youth suicide statistics, and communicating data;
- You can work where and when you want, and at a pace that is most convenient for you;
- You can print out course materials for reference or presentations;
- The course is dynamic and was prepared by nationally recognized experts;
- You receive a certificate of completion from the National Center for Suicide Prevention and Training;
- It is free!

### **The course takes from 4 - 6 weeks, 2 - 4 hours per week, to complete.**

Although the theme is suicide prevention, the information applies to all aspects of injury prevention. Among the topics are:

- An overview of public health prevention and how data is involved
- Evaluating prevention programs and policies
- Strengths and limitations of data sets
- Creating effective tables, graphs, maps, and charts
- Changes to injury coding from IDC-9 to ICD-10
- Data analysis and interpretation
- The most effective ways to report data to different target audiences, such as policy-makers, advocacy groups, the media, and the general public

**To get started, go to [www.ncspt.org](http://www.ncspt.org), click on “workshops” at the top of the screen, then register for Workshop #1: “Locating, understanding and presenting youth suicide data.”**

We know you will get a lot of useful information from this course and will enjoy the experience!

**Nancy Bill, MPH, and Larry Berger, MD, MPH**

incorrect. Respondents were asked to access the survey via a hyperlink in the e-mail message. Results were automatically entered into an Excel database located on the United Tribe's Technical College (UTTC) server. We also searched the NCPST course database for pre- and posttest information from members of the target audience who had accessed the course.

As this study was conducted in "established educational settings" (United Tribes Technical College, IHS Injury Prevention Fellowship Program) and constitutes research on the effectiveness of an instructional technique, it is specifically exempted from Human Studies Institutional Review Board approvals.<sup>2</sup>

### Results

Recruitment e-mails and reminders were sent to 68 individuals, all IHS employees identified as full- or parttime injury prevention professionals. Three months later, the NCPST workshop database revealed that only two study individuals registered for the NCPST workshop, one (1.4%) completed the pretest, and no one completed the posttest.

We obtained three-month follow-up information from 54 individuals, a response rate of 79%. Demographic information and attitudes toward continuing education are summarized in Table 2. Nearly 80% of the respondents had worked in injury prevention for more than five years, 63% had devoted some of their time to suicide issues in the past 12 months, 46% had taken previous online courses, and at least 85% accessed the Internet using high-speed connections (DSL or cable). Only 32% expressed a desire for continuing education credits, mostly for Registered Environmental Health Specialists. "During the winter" was the best time of year to take continuing education courses (52%) and "during the summer" was the worst (54%).



**Table 2: Demographics and continuing education preferences**

	Item	Number
Years worked in injury prevention:		
	1-5	11 21%
	6-10	15 28%
	More than 10	27 51%
Percent of time developed to IP in current job:		
	0	0 0
	1-25%	21 39
	26-50%	16 30
	51-75%	5 9
	76-100%	12 22
Percent of time devoted to suicide issues in past 12 months:		
	0	20 37
	1-10%	30 56
	More than 10%	4 7
Taken online courses in the past:		
	Yes	25 46
	No	29 54
Usual connection to the Internet:		
	Dial-up modem	1 2
	DSL or cable	46 85
	Not sure	7 13
Best time of year to take continuing education courses:		
	Spring	3 6
	Summer	6 11
	Fall	4 7
	Winter	28 52
	No best time	13 24
Worst time of year to take continuing education courses:		
	Spring	0 0
	Summer	29 54
	Fall	8 15
	Winter	3 6
	No worst time	14 26
Are there certain kinds of continuing education credits you would like to receive for completing a course?		
	No	34 68
	Yes	16 32
For most training, I would prefer:		
	Online course	6 12
	Classroom course	22 44
	Conference	9 18
	Depends	13 26

Of the 54 respondents, one person stated they had read some of the course material but had not completed the course; two stated they completed the course (although none completed the posttest); 46 stated they had not read any of the course material; and five provided no information on their participation or nonparticipation (Table 3).

**Table 3. Responses to recruitment e-mails**

Action	Number
Recruitment e-mails sent to IP personnel	6
Completed the pretest (from NCSPT database)	1
Completed the posttest (from NCSPT database)	0
Responded to the 3-month follow-up survey	54
Provided specific information on their participation	49
Read some or all of the course material	3
Did not read any of the course material	46

The reasons given for not accessing the workshop are summarized in Table 4. Nineteen (41%) of the 46 respondents who had not accessed any of the online workshop stated that they “did not receive” either of our recruitment e-mails. Eight of these 19 (42%) had correct e-mail addresses in our records. Nine of the 19 (47%) had e-mail addresses that had “migrated” to new ones (*name@mail.ihs.gov* to *name@ihs.gov*, or

**Table 4. Reasons for not reading any of the course (N=46)\***

“I never received any e-mails about the course”	19	41%
No. with correct e-mail addresses	8	
No. with misspelled e-mail addresses	2	
No. with erroneous (inactive) e-mail addresses	9	
“I’m not currently working in injury prevention”	3	7%
Not interested in the subject matter	5	11%
Subject matter was not relevant to my work	4	9%
Too busy, too many other things to do	19	41%
Not accustomed to learning online	2	4%
Course directions were unsatisfactory	1	2%
Don’t have a computer and/or Internet access at home	0	
My supervisor would not allow me to work on the course during work hours	12	18%
Other reasons for not registering	0	

\*Totals to greater than 100% because more than one answer was allowed.

*name@abq.ihs.gov* to *name@ihs.gov*), and were therefore incorrect in our mailing list. Two (11%) of the 19 e-mail addresses were misspelled.

Of the 27 respondents who stated that they had received the recruitment e-mail, 19 (70%) said that one reason they did not read any of the course materials was that they were “too busy, had too many other things to do.” Twelve (44%) said that their supervisor would not allow them to work on the course during work hours. Nine (33%) included as a reason for not reading any course materials that the subject matter was not of interest or not relevant to their work. All three of the individuals who said they accessed the workshop did so during regular work hours.

### Discussion and Conclusions

The expression “If you build it, they will come” certainly does not apply to our online training experiment. The NCSPT course is an outstanding one and addresses two key aspects of injury prevention work: data issues and the epidemiology of self-inflicted injuries. It has state-of-the-art content, provides a variety of materials and supplementary resources, and is available without charge. Yet of 68 injury professionals invited to participate, only one or two actually accessed the website.

Our survey discounts several potential reasons for nonparticipation: lack of computer or Internet access, slow Internet connections (85% had DSL or cable), confusing course directions, and inconvenient time of year (the signup period was September through November). The two major reasons people didn’t access the workshop, and strategies to address them, are as follows:

“*Did not receive email notification*” Erroneous (misspelled or inactive) e-mail addresses can be discovered at the time of initial mailing by using appropriate messaging software. Several programs (e.g., MSN Outlook) allow the sender to receive notification that a sent e-mail has been received and opened by the receiver. However, nearly half of the individuals who stated they did not receive the announcement had correct e-mail addresses in our database. It is likely that the notification e-mails were deleted because they did not capture the receiver’s interest. Sending announcements by regular (“snail”) mail in addition to e-mail notices; and conducting focus groups to determine what aspects of e-mails (sender names, subjects) are likely to be noticed or dismissed, might be helpful.

“*Too busy, too many other things to do*” Because there are many competing demands for professional time, incentives are important to promote participation in continuing education courses. It is relatively easy to obtain approval from the National Environmental Health Association (NEHA) to offer continuing education units (CEUs) for quality courses. Even more effective would be to tie continuing education to the promotion process. For example, many Public Health Service Commissioned Officers are taking the Commissioned Corps

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Readiness Force (CCRF) modules online because the modules are required to become “deployment ready.” Deployment Readiness has been clearly identified as important to promotion. A third option is to make online courses a requirement for participation in subsequent face-to-face courses.

It is also vital to ensure that courses target important needs by conducting a formal continuing education needs assessment.<sup>3</sup> The assessment should include both injury prevention staff and their supervisors, since 20% of respondents listed “subject matter was not of interest/not relevant” and 18% listed “my supervisor would not allow me to work on the course during work hours” as a reasons for nonparticipation.

Only 12% of our respondents preferred online courses to instruction in classrooms or at conferences for most training. This finding is consistent with a previous (2004) survey of IHS environmental health specialists (Bobby Villines, personal communication), where only 2 of 53 respondents (4%) preferred computer/web-based training. However, travel restrictions due to budget constraints, and time restrictions due to increased work demands, will continue to make online learning an important option for continuing education of IHS staff. Our findings provide insights into how to increase participation and satisfaction with online courses: conduct an

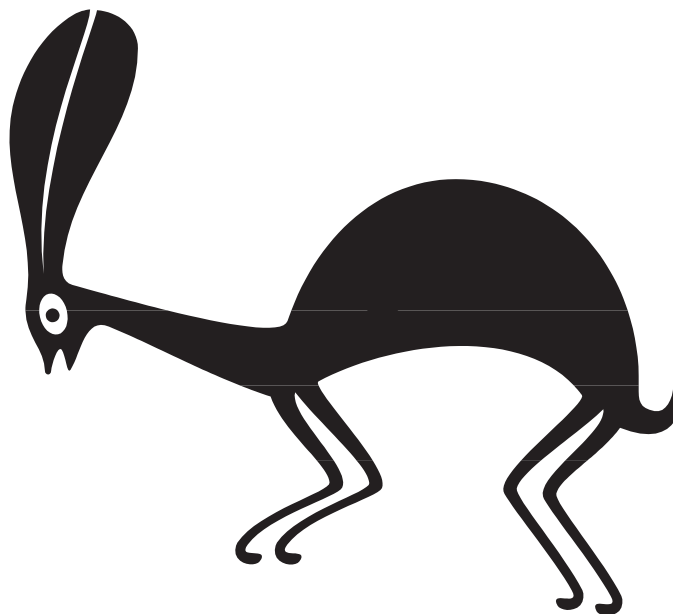
educational needs survey of both staff and supervisors; offer user friendly, high quality online courses; track receipt of course announcements; and provide meaningful incentives.

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We would like to thank Dennis Renville, Nancy Bill, Mark LoMurray, and John Weaver for their encouragement and support; Charlene Weis for information services; David Taylor and Girish Budwhar for computer and statistical support; and Dr. David Grossman for helping design the study.





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*Editor's Note: The following is a digest of the monthly Obstetrics and Gynecology Chief Clinical Consultant's Newsletter (Volume 3, No. 5, May 2005) available on the Internet at <http://www.ihs.gov/MedicalPrograms/MCH/M/OBGYN01.cfm>. We wanted to make our readers aware of this resource, and encourage those who are interested to use it on a regular basis. You may also subscribe to a listserv to receive reminders about this service. If you have any questions, please contact Dr. Neil Murphy, Chief Clinical Consultant in Obstetrics and Gynecology, at [nmurphy@scf.cc](mailto:nmurphy@scf.cc).*

## OB/GYN Chief Clinical Consultant's Corner Digest

### Abstract of the Month

Pelvic Floor Muscle Function and Urinary Incontinence: A Role for Physical Therapy.

Lois Goode, MS, PT, ATC is the Chief Clinical Consultant for Physical Therapy, White River Indian Health Hospital.

The pelvic floor muscles are comprised of two layers of muscles. The deep layer of the pelvic floor is known as the levator ani muscle group. The superficial layer is known as the urogenital diaphragm muscles (consisting not only of the deep transverse and superficial transverse perineal muscles but also the bulbocavernosus and ischiocavernosus muscles, and the anal sphincter muscle). Go to <http://incontinet.com/kegelpix.htm>.

The functions of the pelvic floor muscles are to squeeze around the pelvic openings and to provide inward lift. When these two muscle layers are not contracting simultaneously, or if the contraction is preceded by an increase in abdominal pressure, stress urinary incontinence can occur.

Stress Incontinence is defined by the International Continence Society as the complaint of any involuntary leakage of urine. Stress incontinence, the most common type of urinary incontinence in women, is defined as the involuntary leakage of urine on effort or exertion, such as sneezing or coughing.

There is good evidence to support the use of pelvic floor muscle training to treat stress urinary incontinence. Pelvic floor muscle training can improve the muscle control, timing of superficial and deep layer contractions, and the pelvic floor strength. Further, strengthening the pelvic floor muscles improves quality of life by improving incontinence, increasing support of pelvic viscera, and improving sexual functioning.

Without proper instruction, many women are unable to volitionally contract these muscle groups on demand, as the pelvic floor muscles are located at the floor of the pelvis and are seldom used consciously. One common error is the substitutions of gluteal, hip adductor and/or abdominal muscles rather than contraction the pelvic floor muscles.

Assessment of pelvic floor muscle strength can be done through clinical observation (although visual observation alone is often inadequate), vaginal palpation, ultrasound and MRI, or electromyography. Two main reasons for the physical therapist to conduct high quality assessment of pelvic floor muscle function and strength are 1) to ensure proper pelvic floor muscle contraction technique prior to performing a

strengthening exercise program, and 2) to measure and assess program outcomes and adjust the training parameters (intensity, frequency, or duration) appropriately as indicated.

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### OB/GYN CCC Editorial comment

I would like you to welcome Lois Goode, the new Chief Clinical Consultant for Physical Therapy. Lois makes several good points about the role of physical therapy in Women's Health. Please contact Lois with any question you have at [Lois.Goode@ihs.gov](mailto:Lois.Goode@ihs.gov).

There are Cochrane Library postings about urinary incontinence.

*Authors' conclusions:* Pelvic floor muscle training appeared to be an effective treatment for adult women with stress or mixed incontinence. Pelvic floor muscle training was better than no treatment or placebo treatments. The limitations of the evidence available mean that it is difficult to judge if pelvic floor muscle training was better or worse than other treatments. Most trials to date have studied the effect of treatment in younger, pre-menopausal women. The role of pelvic floor muscle training for women with urge incontinence alone remains unclear. Many of the trials were small with poor reporting of allocation concealment and masking of outcome assessors. In addition there was a lack of consistency in the choice and reporting of outcome measures that made data difficult to combine. Methodological problems limit the confidence that can be placed in the findings of the review. Further, large, high quality trials are necessary.

Hay-Smith, EJC et al. Pelvic floor muscle training for urinary incontinence in women. The Cochrane Database of Systematic Reviews 2001, Issue 1.

*Authors' conclusions:* The limited evidence available suggests that bladder training may be helpful for the treatment of urinary incontinence, but this conclusion can only be tentative as the trials were of variable quality and of small size with wide confidence intervals around the point estimates of effect. There was also not enough evidence to determine whether bladder training was useful as a supplement to another therapy. Definitive research has yet to be conducted: more research is required.

Wallace SA, et al. Bladder training for urinary incontinence in adults. The Cochrane Database of Systematic Reviews 2004, Issue 1.

## From your colleagues

### Judy Thierry, HQE

*Good Screening Tools for Substance Use: 5 Ps or 4 Ps.* These instruments actually are very similar to each other. Both start with the premise that women relate more through their relationships with others and therefore the screen should address some of who else may influence their drinking behavior. This is quite different from traditional screens for men which usually look at things like tolerance, number of drinks to get drunk, black-outs, etc.; i.e., the focus is also on identifying mostly heavy users in other screens

#### 5 Ps

1. Do either of your parents have a problem with using alcohol or drugs?  
*Yes, No, or No answer.*
2. Do any of your friends (peers) have a problem with drugs or alcohol?  
*Yes, No, or No answer.*
3. Does your partner have a problem with drug or alcohol use?  
*Yes, No, or No answer.*
4. Before you knew you were pregnant (past) how often did you drink beer, wine, wine coolers, or liquor?  
*Not at all, rarely, sometimes, frequently.*
5. In the past month (present) how often did you drink beer, wine, wine coolers or liquor?  
*Not at all, rarely, sometimes, frequently.*

Kennedy C, Finkelstein N, Hutchins E, Mahoney. Improving screening for alcohol use during pregnancy: the Massachusetts ASAP program. *Matern Child Health J.* 2004 Sep;8(3):137-47.

#### 4 Ps

1. Did either of your parents ever have a problem with drinking or using drugs?  
*Answers = Yes or No.*

2. Does your partner have any problem with drinking or using drugs?  
*Answers = Yes or No.*

3. Have you ever drunk alcohol?

*Answers = Yes or No.*

4. In the month before you knew you were pregnant, how many beers did you drink?

*Answer = Quantity.*

5. In the month before you knew you were pregnant, how many cigarettes did you smoke?

*Answer = Quantity.*

Developed by Ira Chasnoff, MD. An article will be published in the next few months on use of this screen with pregnant women in publicly funded clinics and some of the findings, to be published in the Journal of Perinatology. Lead author: Ira Chasnoff, MD

## Hot Topics

### Obstetrics

*Should we help patients decide on storage of umbilical cord stem cells? Yes.* “. . . The weight of current evidence, then, suggests that government-funded public umbilical blood banking is an idea whose time has come. From a cost-benefit and ethical perspective, it is hard, at present, to justify the value of private umbilical cord blood banking. However, in certain families at high risk for conditions that can be remedied by autologous stem cell therapy, the costs may be justified. Moreover, if cord blood proves a non-controversial source of embryonic stem cells, a far stronger case could be made for private banking. For all these reasons, when a patient asks me whether she should “collect the baby’s cord blood,” my short answer remains, “Maybe, but probably not.” Lockwood C. Editorial: Should we encourage storage of umbilical cord stem cells? *Contemporary Ob/Gyn* 2002;11:8-12. and Perlow JH. Cord blood banking: An OB’s perspective. *Contemporary Ob/Gyn.* 2002;11.

### OB/GYN CCC Editorial comment

Umbilical cord blood banking is vastly underrepresented among minority populations in the US, including AI/AN. Much like other organ donation programs, AI/ANs have but to gain from donation to a public cord blood bank. If the individual AI/AN family has the resources for a private cord blood bank, then there are particular advantages for certain genetic AI/AN lineages. I have attached two resources to share with your patients to help in their decision making process.

In the meantime, health facilities in Indian Country should 1) provide non-directed patient education about public and private cord blood banking, and 2) be willing to help in the logistical steps of collection for those AI/AN patients interested in pursuing cord blood banking, e.g., either with public cord blood banks, or for families using their own resources to pay for private cord blood banks.

## A Parent's Guide to Cord Blood Banks

How much do your patients know about this potentially life saving technique? There are private and public umbilical cord blood banks, both with advantages and disadvantages. A Parent's Guide to Cord Blood Banks is a website that places an emphasis on how to evaluate private bank services from a parent's viewpoint. Go to <http://www.parentsguidecordblood.com>.

## Gynecology

*Testosterone patch effective in hypoactive sexual desire in surgically menopausal women.*

**Conclusion:** In surgically menopausal women with hypoactive sexual desire disorder, a 300 mug/d testosterone patch significantly increased satisfying sexual activity and sexual desire, while decreasing personal distress, and was well tolerated through up to 24 weeks of use. Level of Evidence: I. Buster JE, et al. Testosterone patch for low sexual desire in surgically menopausal women: a randomized trial. *Obstet Gynecol.* 2005 May;105(5):944-52.

## Child Health

*To eat fruit and vegetables or not? Factors that influence consumers' decisions.*

Understanding Economic and Behavioral Influences on Fruit and Vegetable Choices provides information on the economic, social, and behavioral factors influencing consumers' fruit and vegetable choices. The article examines how cost, household composition and cultural background, and food-related lifestyle changes influence consumers' fruit and vegetable choices.

## Chronic Illness

Screening for Asymptomatic Bacteriuria: Recommendation Statement: USPSTF

Summary of Recommendations. The USPSTF strongly recommends screening for asymptomatic bacteriuria with urine culture in pregnant women at 12 to 16 weeks' gestation. A recommendation. The USPSTF found good evidence that screening pregnant women for asymptomatic bacteriuria with urine culture significantly reduces symptomatic urinary tract infections, low birth weight, and preterm delivery. The benefits of screening and treatment substantially outweigh any potential harms. The USPSTF recommends against routine screening for asymptomatic bacteriuria in men and nonpregnant women. D recommendation.

## Features

### ACOG

Intrapartum fetal heart rate monitoring. ACOG Practice Bulletin No. 62

Summary of Recommendations and Conclusions

*The following recommendations are based on good and consistent scientific evidence (Level A):*

- The false-positive rate of EFM for predicting adverse outcomes is high.
- The use of EFM is associated with an increase in the rate of operative interventions (vacuum, forceps, and cesarean delivery).
- The use of EFM does not result in a reduction of cerebral palsy rates.
- With persistent variable decelerations, amnioinfusion reduces the need to proceed with emergent cesarean delivery and should be considered.

*The following recommendations are based on limited or inconsistent scientific evidence (Level B):*

- The labor of parturients with high-risk conditions should be monitored continuously.
- Reinterpretation of the FHR tracing, especially knowing the neonatal outcome, is not reliable.
- The use of fetal pulse oximetry in clinical practice cannot be supported at this time.
- Intrapartum fetal heart rate monitoring. ACOG Practice Bulletin No. 62. American College of Obstetricians and Gynecologists. *Obstet Gynecol.* 2005;105:1161-69.

## Ask a Librarian: Diane Cooper, MSLS/NIH

*Vitamin C reduced premature rupture of the membranes (PROM).* A randomized trial assessed the outcomes of 120 pregnant women who were randomly assigned to take 100 mg of vitamin C or a placebo daily, starting in their 20 week of gestation. The researchers found vitamin C levels decreased in the control group and increased in the supplement group. PROM occurred in 14 of 57 pregnancies in the control group (25%) and only 4 of 52 pregnancies (8%) in the vitamin C group.

**Conclusion:** Daily supplementation with 100 mg vitamin C after 20 wk of gestation effectively lessens the incidence of PROM.

Casanueva E, et al. Vitamin C supplementation to prevent premature rupture of the membranes: a randomized trial. *Am J Clin Nutr.* 2005 April; 81(4): 859-863.

## Medical Mystery Tour

*The Case of the Mystery Question.* Here is case scenario. Please let us know: what is the one mystery question? While I was cross country skiing near an abandoned gold mine in southcentral Alaska this winter, I heard about a 20-year old gravida 1 para 0 at 39 weeks who has just delivered a 3250 gm healthy female infant after a prolonged second stage. The patient's pregnancy was complicated by severe pre-eclampsia diagnosed on the basis of serial blood pressures > 160/110 and over 5 grams of proteinuria. The patient received magnesium sulfate prophylaxis with a 4 gram bolus followed by 2 grams per hour IV. The patient received pitocin IV after delivery of the fetal shoulder.

Soon after delivery of an intact placenta, the patient is noted to have had a > 1500 cc blood loss. The patient is then

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managed with pitocin IV, two large bore IVs, crystalloid resuscitation, carboprost tromethamine 250 mcg x 2 IM, uterine exploration, bimanual massage, exploration of the uterus, and a thorough examination for trauma.

The patient's uterus was then packed with two 30 cc bulb foley catheters. The patient's history is reexamined and no history of blood dyscrasia is noted. The patient had received 1000 mcg of rectal misoprostol, but has now developed a copious clear diarrhea from her carboprost. The uterus is intermittently reported as firm, and then boggy throughout the course.

The patient has received two units of packed red blood cells, but continues to hemorrhage, as additional units are requested STAT. The patient is becoming hemodynamically unstable. The interventional radiology guideline only allows for treatment of stable patients from 9:00 am to 4:30 PM during weekdays. The operating room is prepared for immediate surgery.

In the meantime, the attending staff member walks in to evaluate the patient before she is rushed to the operative suite. The attending asks the two senior residents in attendance one question. What was that question? To find out, go to <http://www.ihs.gov/MedicalPrograms/MCH/M/documents/CaP PH41005.doc>.

### **Who prescribed that really potent clomiphene in 1978?**

A budding IHS infertility specialist above the Arctic Circle prescribed Clomiphene over the phone in 1978. The patient who benefited from this early telemedicine consultation went on to have six more children over the next 14 years. Clearly, an elegant maneuver.

The prescribing health care provider, who went on to work in the IHS for 24 years, was none other than Alan Waxman, MD. Dr. Waxman served Indian women primarily at Gallup Indian Medical Center, after a two year rotation at Alaska Native Medical Center, and is now on the faculty at the University of New Mexico. If you have other illustrative clinical scenarios you would like to share, please contact [nmurphy@scf.cc](mailto:nmurphy@scf.cc)

### **Midwives Corner: Virginia Glifort, CNM, ANMC**

*Antibiotic Treatment for Bacterial Vaginosis Does Not Prevent Preterm Birth.* Antibiotic therapy for bacterial vaginosis or *Trichomonas vaginalis* during pregnancy does not cut the risk of preterm birth according to the results of a systematic review. This finding runs counter to the conclusions reached by three previous findings. They are based on analysis of data from studies including 14 that were used in a meta-analysis.

Okun N et al. Antibiotics for bacterial vaginosis or *Trichomonas vaginalis* in pregnancy: A systematic review. *Obstet Gynecol.* 2005 Apr;105(4):857-868.

### **Oklahoma Perspective, Gregory Woitte, Hastings Indian Medical Center**

*To VBAC, or not to VBAC, that is the question . . .* VBACs have once again come under fire and are the subject of controversy. Highlights of the ACOG 2004 Practice Bulletin included selection criteria for VBAC candidates. Recently, the main insurer of physicians in Oklahoma decided to no longer cover the malpractice suits involving VBAC procedures as of December 31, 2004. Insurance companies appear to be weighing in on the debate in other states as well. As the pendulum about VBACs continues to swing, where do you stand? "Once a cesarean, always a cesarean," or "Trial of labor for all"? I suspect it is somewhere in the middle.

ACOG Practice Bulletin Number 54, Vaginal Birth after Cesarean Section.

### **OB/GYN CCC Editorial comment**

This is the first installment of what we hope will be a new regular feature to share some of the issues of interest from the Oklahoma Area. We are grateful to Gregory Woitte, Hastings Indian Medical Center, for taking the time to share this timely first issue with us.

Each local Indian health system facility must decide how they can meet the ACOG recommended 'immediately' available personnel for emergency delivery. As symptomatic uterine rupture is an uncommon event, it is highly recommended that all Indian health system facilities that provide obstetric delivery be prepared for an emergency delivery, regardless if it is a VBAC, or a shoulder dystocia.

One helpful method is for the entire L/D unit to perform periodic emergency delivery drills. PIMC recently reported on a successful approach to this in the March 2005 Midwives Corner.

Many facilities have incorporated other Emergency Delivery Drills on L/D to improve overall process issues. These drills have helped the whole team get used to the many process issues that only arise in a practical setting, e.g., not just on paper. These types of exercises can also be presented to JCAHO and other oversight agencies as a practical example of quality improvement.

### **STD Corner - Laura Shelby, STD Director, IHS**

*After the promise: The STD consequences of adolescent virginity promises.* The purpose of this study was to examine the effectiveness of virginity pledges in reducing STD infection rates among young adults (ages 18–24). Pledgers are consistently less likely to be exposed to risk factors across a wide range of indicators, but their STD infection rate does not differ from nonpledgers. Possible explanations are that pledgers are less likely than others to use condoms at sexual debut and to be tested and diagnosed with STDs.

Brückner H, et al. After the promise: The STD consequences of adolescent virginity promises *Journal of Adolescent Health.* 2004;36(4):271-278.

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## Barbara Stillwater, Alaska State Diabetes Program

*There are 1440 minutes in a day. Make 30 of them active.*

There is a new international definition for the Metabolic Syndrome. A person has the metabolic syndrome if they have central obesity (waist circumference > 94cm for European men and > 80cm for European women) plus any two of the following factors: increased triglyceride concentrations, reduced HDL cholesterol levels, increased blood pressure (systolic

>130mmHg or diastolic >85mmHg), and increased fasting plasma glucose (>100mg/dL [5.6mmol/L]) or previously diagnosed type 2 diabetes. Definitions of obesity based on gender and ethnicity are provided. Recommendations for treatment, including primary and secondary interventions and recommended strategies for the individual components of the metabolic syndrome, are given. International Diabetes Federation, [www.idf.org](http://www.idf.org).

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*This is a page for sharing "what works" as seen in the published literature, as well as what is being done at sites that care for American Indian/Alaskan Native children. If you have any suggestions, comments, or questions, please contact Steve Holve, MD, Chief Clinical Consultant in Pediatrics, at [sholve@tcimc.ihs.gov](mailto:sholve@tcimc.ihs.gov).*

# IHS Child Health Notes

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## Quote of the month

*"For knowledge itself is power."*

Francis Bacon, 1597

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## Articles of Interest

Lower respiratory tract infections among American Indian and Alaska Native children and the general population of US children. *Pediatr Infect Dis J.* 2005 Apr;24(4):342-51. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed>.

## Editorial Comment

Lower respiratory tract infections (LRTIs) account for almost 75% of the infectious disease hospitalizations in American Indian and Alaska Native (AI/AN) infants and children. Several studies in the 1990s demonstrated that the hospitalization rate for bronchiolitis was much higher in AI/AN children than in the US as a whole.

This study looked at the burden of disease for all LRTI including ICD-9 codes for bronchitis, bronchiolitis, pneumonia, pertussis, and influenza. The rates of disease among AI/AN were much higher, with hospitalizations being twice as high in AI/AN children, and the outpatient visit rate was three times higher than that of US children. Infants had particularly high rates of LRTIs. The authors point out that the highest disease burden occurs in Alaska and in the southwest. The authors discuss potential strategies to reduce this health disparity for AI/AN infants and children

## Recent literature on American Indian/Alaskan Native Health

Disparities in indigenous health: a cross-country comparison between New Zealand and the United States. *Am J Public Health.* 2005 May;95(5):844-50. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed>.

- Indigenous people in both the US and New Zealand face significant health disparities compared to the dominant population.
- In nearly all indicators of health status the Maori fared more poorly than AI/AN.
- For AI/AN the only measured health indicator in which there was no disparity was in immunizations.

Measuring the health status gap for American Indians/Alaska natives: getting closer to the truth. *Am J Public Health.* 2005 May;95(5):838-43. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=Pager&DB=pubmed>

- Health disparities remain for AI/AN.
- This entire issue of the *American Journal of Public Health* is devoted to problems of AI/AN health disparities and is worth reading.



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