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Maternal Morbidity during Delivery Hospitalizations in American Indian and Alaska Native Women

Stephen J. Bacak, MPH, Epidemiologist, Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, Georgia; Judy Thierry, DO, MPH, Maternal and Child Health Coordinator, Office of Clinical and Preventive Services, Indian Health Service, Rockville, Maryland; Myra Tucker, BSN, MPH, Epidemiologist, Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta; and Edna Paisano, MSW, Principal Statistician and Director, Division of Program Statistics, Office of Public Health Support, Indian Health Service, Rockville, Maryland

Abstract

Background: Presently, little is known about maternal morbidity in American Indian and Alaska Native (AI/AN) women. The purpose of this study was to examine the prevalence of maternal morbidity during delivery hospitalizations at select Indian Health Service (IHS) medical centers.

Methods: Using the IHS National Patient Information Reporting System, we identified maternal morbidity using ICD-9 codes from the pregnancy chapter (640-677) as well as other pertinent non-pregnancy ICD-9 codes. Delivery hospitalizations were identified by an ICD-9 V27 code. All analysis was performed using SAS Version 9.1.

Results: AI/AN women in this study population had higher rates of some maternal morbidity compared to women in the general population, including postpartum hemorrhage, gestational diabetes, and pregnancy-related hypertension.

Conclusions: Ongoing monitoring of maternal morbidity at both the national and local level is needed to further understand their elevated health risk.

Introduction

Maternal morbidity is a physical or psychological condition resulting from or aggravated by pregnancy that

Dates for IHS Research Conference Finalized

The conference will be held June 4 – 7, 2007 in Phoenix, Arizona. The conference information, registration form, and Call for Abstracts can be found on pages 45-46 of this issue.

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adversely affects a woman's health. During labor and delivery, when most maternal morbidity and deaths occur, 29% of women experience some type of obstetric complication. Some of the most common complications during labor and delivery include pregnancy-related hypertension, infection, and gestational diabetes.[1] At present, there are few published studies on maternal morbidity among American Indian and Alaska Native (AI/AN) women. The purpose of this study was to examine the prevalence of maternal morbidity during delivery hospitalizations among AI/AN women.

Materials and Methods

Data Source. We examined delivery hospitalizations from five Indian Health Service (IHS) medical centers from July 2002 to June 2004 using the National Patient Information Reporting System (NPIRS). The NPIRS is the IHS national repository for patient demographics and patient care activity at IHS medical facilities and contracting facilities that provide care to the IHS user population. It is comprised of data from both the Patient Care Component (PCC) and patient registration components of the Resource and Patient Management System (RPMS). The NPIRS includes patient information such as age, geographic region, and eligibility for private insurance and Medicaid. Hospitalization characteristics include up to 15 diagnosis fields and 3 procedure fields. All diagnosis and procedure fields are based on International Classification of Diseases, ninth Revision (ICD-9) codes.

Because of the complexity of the NIPRS database, we analyzed data from a small, subpopulation of women to asses the utility of the NIPRS database to capture maternal morbidity. For this analysis, we used all delivery hospitalizations reported to the NPIRS for five IHS medical centers during the selected time period. The medical centers were located in three geographic regions of the IHS health services delivery system and were chosen because of their obstetric and surgical capabilities, as well as their annual number of deliveries. More than 30% of annual deliveries in the IHS service area take place in these centers. Permission was obtained from IHS and each medical center to perform this study. In order to protect tribal and individual identity, all analyses in this study are reported in aggregate form.

Definitions and Analysis. Delivery hospitalizations were identified by a V27 ICD-9 code listed in any of the 15 diagnosis fields. We defined maternal morbidity using the ICD-9 codes 640-677, which are specific to pregnancy, labor, and delivery, listed in any of the 15 diagnosis fields. In addition, related ICD-9 codes outside of the 640-677 range were included in the morbidity categories. For example, pyelonephritis (ICD-9 code 590) was included with code 646.6 to define the genitourinary complications category. No morbidity was defined as the absence of any of the predetermined codes. Documentation of morbidity classifications is available upon request from the study authors. All analyses were performed using SAS Version 9.1.

Results

From July 2002 to June 2004, 6761 deliveries occurred at the five medical centers. Demographic characteristics of the AI/AN women are shown in Table 1. Fifty-seven percent of women were from the southwest, 29% were from Alaska, and 14% were from the east. More than 80% of women were between the ages of 18 - 34. The majority of women had a hospitalization stay of 2 - 3 days, while 9% of women remained in the hospital four or more days. Almost 16% of deliveries occurred by cesarean section.

Table 1. Characteristics of delivery hospitalizations among American Indian and Alaska Native women, National Patient Information Reporting System, 2002-2004

Characteristics	No.	%
Total	6761	
Region		
Alaska	1979	29.3
East	939	13.9
Southwest	3843	56.8
Age (y)		
13-17	418	6.2
18-24	2921	43.2
25-34	2773	41.0
35-49	649	9.6
Length of hospital stay		
0-1	1504	22.3
2-3	4633	68.5
>4	624	9.2
Cesarean delivery*	1052	15.6
Use of a midwife during pregnancy and/or delivery*	5572	82.4
Eligible for Medicaid at visit*	5274	78.0
Eligible for private insurance at visit*	2093	31.0
* % yes		

Table 2. Maternal morbidity during delivery in American Indian and Alaska Native women and women in the United States

Maternal Morbidity	AI/AN %*	95% CI	U.S. % **
Antenatal hemorrhage	1.7	1.4, 2.0	1.6
Postpartum hemorrhage	8.5	7.8, 9.2	2.0
All preeclampsia	5.7	5.2, 6.3	3.0
Preeclampsia	4.1	3.6, 4.6	2.3
Severe preeclampsia			
eclampsia	1.2	0.9, 1.4	0.7
Transient hypertension	3.4	2.9, 3.8	2.1
Infections			
Genitourinary	2.5	2.2, 2.9	2.7
Amniotic	1.5	1.2, 1.8	1.9
Fever	1.2	0.9, 1.4	1.1
Other infections***	4.1	3.6, 4.6	2.7
Other			
DVT/obstetric embolism	0.1†	0.02, 0.2	<0.1‡
Gestational diabetes	7.6	6.9, 8.3	2.8

** National Hospital Discharge Survey 1993-1997[1]
*** Includes Group B Streptococcus, puerperal infections, pneumonia, and postpartum fever of unknown origin
† Should be considered unreliable due to small sample size
‡ Reported individually as <0.1%

Overall, 29% of AI/AN women experienced some type of obstetric complication during delivery (Table 2). The most prevalent complication was postpartum hemorrhage, occurring in 8.5% (95% CI 7.8, 9.2) of deliveries. Gestational diabetes was found in 7.6% (95% CI 6.9, 8.3) of women. Other leading causes of maternal morbidity included preeclampsia and genitourinary infections, 5.7 (95% CI 5.2, 6.3) and 2.5 (95% CI 2.2, 2.9), respectively.

Table 3 shows the average length of stay for women experiencing morbidity by type of delivery. The average length of stay for AI/AN women without complications delivered by non-cesarean methods was 1.9 days (95% CI 1.9, 2.0) while women delivered by cesarean section had an average length of stay of 2.9 days (95% CI 2.8, 3.0). For non-cesarean deliveries, women with severe preeclampsia/eclampsia remained in the hospital an average of 4 days (95% CI 3.3, 4.7). For cesarean deliveries, women with other infections (including Group B streptococcus, pneumonia, and sepsis) remained in the hospital an average of 5.6 days (95% CI 4.7, 6.5).

Conclusion

To our knowledge, this was the first attempt to specifically examine maternal morbidity during delivery among AI/AN women. The results presented here are also the first published data on maternal morbidity from the NPIRS database. Overall, we found that 29% of deliveries were complicated by one or more maternal morbidities. The rate among AI/AN women in our study population was similar to that for overall obstetric

Table 3. Mean length of hospitalization stay among American Indian and Alaska Native women, National Patient Information Reporting System, 2002-2004

Maternal Morbidity	Cesarean Delivery (n=1052)		Non-cesarean Delivery (n=5709)	
	Mean LOS*	95% CI	Mean LOS*	95% CI
None	2.9	2.8, 3.0	1.9	1.9, 2.0
Antenatal hemorrhage	4.1	2.9, 5.3	2.6	2.3, 2.9
Postpartum hemorrhage	3.5	3.3, 3.8	2.3	2.2, 2.4
Preeclampsia	5.4	3.9, 6.8	3.0	2.8, 3.2
Severe preeclampsia/ eclampsia	4.8	4.0, 5.6	4.0	3.3, 4.7
Transient hypertension	3.9	3.3, 4.4	2.6	2.5, 2.8
Genitourinary infection	3.6	3.0, 4.1	2.4	2.2, 2.6
Amniotic infection	4.3	3.5, 5.0	2.9	2.4, 3.5
Fever	3.3	3.0, 3.7	2.5	2.3, 2.8
Other infections**	5.6	4.7, 6.5	2.5	2.4, 2.7
DVT/ obstetric embolism	†	†	†	†
Gestational diabetes	3.6	3.3, 3.9	2.3	2.1, 2.4

* Length of hospital stay (in days)
** Includes Group B Streptococcus, puerperal infections, pneumonia, and postpartum fever of unknown origin
† Unable to report due to small sample size

morbidity among women in the US.[1] However, AI/AN women in our study had higher rates of some severe complications compared to women in the US, including postpartum hemorrhage, gestational diabetes, and all preeclampsia.

In our study population, 15.6% of deliveries occurred by cesarean section. This is higher than previous reports of AI/AN women[2,3] and may reflect the increasing use of cesarean section in the US. The rate of cesarean section may also represent a high-risk group of AI/AN women that need to deliver at these hospitals with obstetric and surgical facilities. However, the cesarean section rate in our study population is significantly lower than the current rate of 26% for all women in the US.[4]

The prevalence of postpartum hemorrhage among AI/AN women in our study was four times higher than that reported among all US women.[1] It is unclear why AI/AN women would have higher rates of postpartum hemorrhage compared to other women. Previously identified risk factors have included prolonged labor, obesity, and macrosomia, some of which are prevalent among AI/AN women.[5] Hemorrhage is a leading cause of maternal death. In a large population-based study, uterine atony and postpartum bleeding were the leading cause of hemorrhage in women who died after a live birth.[6] However, deaths associated with hemorrhage can be prevented with early diagnosis and proper medical management.[7] Recently, Fenton et al found that active management of the third stage of labor, which included early cord clamping and cutting, oxytocin administration, and controlled cord traction, reduced postpartum blood loss in a population of rural American Indians.[8]

AI/AN women in our study had nearly three times the rate of gestational diabetes at delivery than women in the general population.[1] Prior studies have indicated a prevalence range of gestational diabetes from 3.4% in Navajo to 14% in Zuni Indian women.[9-12] Gestational diabetes is associated with both maternal and fetal complications, including pregnancy-related hypertension, cesarean section, macrosomia, and shoulder dystocia.[13,14] A national population-based study found the rates of pregnancy-induced hypertension, macrosomia, and chromosomal anomalies were significantly higher among AI/AN women with gestational diabetes than white women with gestational diabetes.[15] In addition to adverse perinatal outcomes, women with gestational diabetes are more likely to develop type II diabetes later in life. Steinhart et al found that 58% of Navajo women with gestational diabetes went on to develop type II diabetes.[16]

The prevalence of pregnancy-related hypertension was also higher than that reported for women in the US, 5.7% vs 3.0%.[1] The prevalence of preeclampsia and eclampsia in our study population is similar to the 5.2% prevalence found in a recent review of delivery logs in six Navajo medical centers[17] and the 5.8% prevalence among American Indian women in New Mexico.[3] However, this is lower than previous reports of Navajo and Zuni Pueblo women in New Mexico.[2,18] Although the etiology of preeclampsia is unknown, risk factors include a prior pregnancy with preecalmpsia, obesity, and diabetes.[19] Lavaille found that AI/AN women with diabetes during pregnancy were more likely than similar white women to have pregnancy-induced hypertension.[15] We would expect the prevalence of gestational diabetes and hypertension to vary greatly across AI/AN Areas and tribes.

Severe maternal morbidity and maternal death are most likely to occur during labor and delivery. Fortunately, there were no maternal deaths at delivery in our study population. From 1996-1998, two maternal deaths were reported across all IHS service Areas.[20] Although uncommon, the risk of maternal death among AI/AN women is almost twice that of white women.[21]

In our study, we examined data from 6761 delivery hospitalizations that occurred in five IHS medical centers with obstetric and surgical capabilities. Our results should only be compared to data with similar patient and hospital demographics. Approximately 10,000 births occur each year in IHS tribal and federal hospitals (Data from IHS Division of Program Statistics, 2000-2001). However, not all women who are eligible to deliver at an IHS facility do so. AI/AN women with private insurance or Medicaid may chose to deliver at a hospital outside of the IHS system. Furthermore, high-risk women may be transferred to a tertiary care facility outside the IHS system. In one study, Leeman found that 3.2% of Zuni and Navajo births occurred in a non-IHS tertiary care center when prematurity and fetal anomalies were indicated.[2]

We were also missing important variables such as parity, obesity, urban/rural status, and health behaviors (e.g., smoking and alcohol use) that would provide valuable information regarding the etiology and severity of disease. The PCC of RPMS contains only a subset of the most important information recorded in the medical charts. Furthermore, the amount of data reported to RPMS varies by hospital. Even if data are entered into RPMS, they may not be exported to the national repository. Medical record reviews would likely give better insight to a woman's overall health status at the time of delivery and more information than ICD-9 codes to understand the severity of morbidity. This may also include information on depression, history of injuries, and exposure to family violence. Finally, we were unable to link the delivery with the infant hospitalization to investigate neonatal outcomes. This linkage may be possible at the local level using the RPMS system and systematic chart review.

Despite the limitations, this study provides important insight on maternal morbidity during delivery among AI/AN women. Our results stress the need for comprehensive preconception and prenatal care to prevent morbidity. Our results also indicate opportunities should be taken to elucidate the full potential of the IHS data repositories to determine maternal morbidity among AI/AN women. Furthermore, it may be possible to follow a woman over time by linking her delivery hospitalization with other facility and clinic visits. By expanding surveillance efforts to include antepartum and postpartum complications, as well as her infant's health

records, we would have a more comprehensive understanding of the burden of maternal morbidity among AI/AN women. Furthermore, we would have a clearer idea of the etiologic research and prevention efforts needed to reduce morbidity in this high-risk population. We encourage national, regional, and local use of these data to inform policy and intervention strategies across all IHS service Areas to improve overall maternal health.

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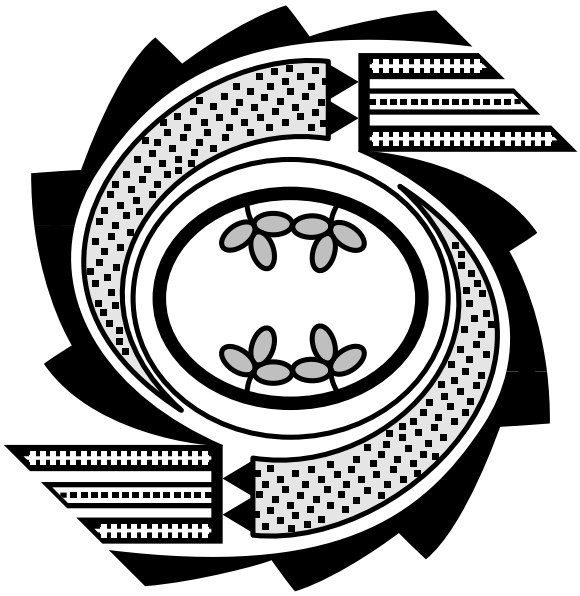

The IHS Injury Prevention Fellowship Program: A Long-Term Evaluation

Lawrence Berger, MD, MPH, Academic Director, IHS Injury Prevention Fellowship Program, Albuquerque, New Mexico; CDR Don Williams, REHS, MPH, DAAS, Area Injury Prevention Specialist, Tucson Area Indian Health Service, Tucson, Arizona; and CDR Nancy M. Bill, MPH, CHES, Injury Prevention Manager, Indian Health Service, Rockville, Maryland

Introduction

Intentional and unintentional injuries are a leading cause of suffering and death among American Indians and Alaska Natives (AI/AN). They are the number one cause of mortality from ages one to 44 years.[1] Among children ages 1 - 17 years, high injury rates account for virtually the entire disparity in childhood mortality rates between AI/AN children and US White children.[2] Injuries are also the leading cause of years of potential life lost (YPLL) before age 65. Among AI/AN nationally, 40% of YPPL before age 65 is due to injuries, compared to 9% for heart disease, 8% for cancer, and 3% for diabetes.[3]

Since 1987, a year-long, advanced training opportunity – the IHS Injury Prevention Fellowship Program (IPFP) – has been an important component of the Indian Health Service's efforts to reduce the burden of injuries and build tribal capacity for injury prevention. The fellowship is part of a broader set of offerings that include a series of three core courses in injury prevention, as well as targeted trainings in child passenger safety, grant writing, program evaluation, and intentional injuries.[4,5]

Individuals employed by both the IHS and tribes are eligible for participation in the Injury Prevention (IP) Fellowship. The cornerstones of the fellowship are primary prevention, evidence-based strategies, and practical skills. Examples of practical injury prevention skills are the use of GPS devices, digital cameras, and computer software; oral and written presentation skills; and proposal-writing. Case studies, data analyses, published literature, and field experiences are drawn from AI/AN communities. Presenters, too, are chosen for their familiarity with injury issues in AI/AN communities, as well as for their professional expertise.

An obvious goal of the fellowship is to enhance the knowledge and skills needed by individuals to fulfill their roles as injury prevention practitioners. To this end, the fellowship has several components:

- Design and completion of a year-long project;
- Classroom work and a field course (four sessions);
- Between-course assignments;
- Computer labs;
- Mentoring by community and academic experts;
- A symposium at which fellows present the results of their projects.

Table 1. Comparison of the two IHS Injury Prevention Fellowship options

	Epidemiology Option	Program Development Option
Focus	Evaluation, Surveillance, Data collection	Community interventions
Education Prerequisites	Bachelors degree required	Bachelors degree not required
Training Prerequisites	Introduction to IP + Intermediate IP (or equivalent)	Introduction to IP or equivalent.
Field Experience Prerequisites	3 years in public health, 2 years in injury prevention	1 year in injury prevention
Travel/Time Away from Home	6 weeks + presentation (2 days)	4 weeks + presentation (2 days)
Curriculum	• 4.5 days: IP Project development • 3 weeks: Epidemiology • 4.5 days: Field course • 4 days: Presentations and publication (Albuquerque) • 2 days: Symposium	• 4.5 days: Injury prevention program planning • 4.5 days: Project implementation and evaluation • 4.5 days: Field course • 4.5 days: Marketing, advocacy, presentation skills (Albuquerque) • 2 days: Symmposium

Beginning with the Class of 1993, there have been two fellowship options, one with an epidemiology focus and the other emphasizing community interventions. Table 1 summarizes the two fellowship tracks.

Based on two criteria, there is ample evidence that the fellowship is successful in building tribal capacity in the short-term. The first criterion is the development of new injury prevention resources. For example, fellowship field courses had produced home inspection forms to assess fire safety in AI/AN communities, a checklist for determining the comprehensiveness of child passenger safety efforts, a model for teaching GPS skills using a geo-caching exercise, and a template for conducting focus groups on injury prevention issues. The second criterion is the assumption by individuals of new professional roles in injury prevention based on their fellowship experience and training. A tribal police lieutenant, for example, became a national expert on police policies and procedures for responding to domestic violence calls on tribal lands. The director of a state health department's injury prevention program developed unique insights into tribal/state collaboration as a result of her fellowship project.

We wanted to determine if the fellowship program was effective in the long term, which we defined as three or more years after completion of training. The criteria we chose to assess long-term effectiveness were that fellowship graduates would:

1. Continue to work in the field of injury prevention;
2. Report that their year-long projects had a lasting impact on reducing the burden of injuries;
3. Assume prominent roles in IP as trainers, decision-makers, and policy makers;
4. Publish the results of their projects.

Methods

From the fellowship class of 1987 through the current class of 2006, there have been 227 participants. We sent a survey via e-mail to 115 fellows who graduated at least three years previously (Classes of 1987 through 2003). Non-responders were contacted by phone and e-mail to request their participation.

We also conducted a literature review (using Medline searches and through personal communications) to identify published articles whose authors included fellowship graduates.

As this study was conducted in an "established educational setting" (the IHS Injury Prevention Fellowship Program) and constituted research on the effectiveness of an instructional technique, it was specifically exempted from Human Studies Institutional Review Board approvals.[6]

Results

Of the 115 former fellows contacted, 86 completed the survey, a response rate of 75%. The 86 responses represent 41% of the 209 fellows who graduated between 1987 and 2004. The average numbers of years since graduation was nine.

Among the 86 respondents, 48% said that injury prevention constituted at least 25% of their current workload; 71% said that at least 5% of their current workload is devoted to injury prevention. The great majority (88%) of the respondents were employed in one of three settings: the Indian Health Service (59%), tribes or Alaska Native Corporations (14%), or other Federal agencies, such as the CDC, HRSA, FDA, NIOSH, or the US Coast Guard (15%).

Many of the fellowship graduates are in important administrative and policy-making positions. They include two Area Chiefs and a Division Director in the IHS Environmental Health Services Branch; a Senior Public Health Analyst at the Office of Performance Review (HRSA); Acting Director, Division of Healthcare Preparedness (HRSA); Director of Environmental Health Support, IHS/Alaska Native Tribal Health Consortium; Chief, Injury Prevention Service at the Oklahoma Department of Health; Department Chair for Injury Prevention and Associate Academic Dean at the United Tribes Technical College; Branch Chief for Safety, Environmental Health, and Food Service, US Coast Guard; and the IHS Injury Prevention Program Manager. Of the 27 Injury Prevention Specialists listed on the IHS web site, 23 (85%) are fellowship graduates. Also, nine members or alternate members of the National Injury Prevention Tribal Steering Committee had completed the fellowship program.

The Fellowship made a lasting impact on all of the respondents. One hundred percent of the respondents (86/86) answered "Yes" to the question, "Was the fellowship year worth the time and effort you devoted to it?" They mentioned a new awareness of injuries as a public health issue; long-term networking with fellowship classmates; acquisition of knowledge and skills to design, implement, and evaluate a project; and changes in how they assess their daily work ("Is what I am doing proven to be effective? Am I targeting the right people with my message?").

More than four out of five respondents (83%) reported that the fellowship influenced their professional careers. Several fellowship graduates stated that the training prompted them to attend graduate school and obtain a Masters Degree in Public Health. Others attributed to the Fellowship their decision to remain active in the field of injury prevention, "even when I could have left for a promotion."

A key question was whether the fellows' year-long projects had any impact on reducing injuries, or had merely sat on a shelf. Two-thirds of the respondents (66%) said their project had led to some positive results; another 12% were unsure; and 20% said their projects had not led to any changes. A number of projects led to national injury prevention initiatives, such as the Native Peoples' Brain Injury Council, a degree program in injury prevention at a tribal college, and two tribal Head Start/IHS cooperative programs (Sleep Safe and Ride Safe). Information from fellowship projects was also used to obtain funding for roadway improvements, law enforcement projects and equipment, and tribal injury prevention programs.

Publishing articles about data and intervention projects in AI/AN communities builds tribal capacity for injury prevention in several ways. First, it disseminates information about what programs are successful (or not), and why. Second, it provides tools (such as data collection instruments and literature reviews) and methods (observational studies, focus groups, home visits) that can be replicated in other settings. We identified 18 articles based directly on fellowship projects.[7-24] There were an additional 29 publications for which fellowship graduates were authors or co-authors.[25-53] A compendium of abstracts of unpublished fellowship projects from 1987 - 1998 can be accessed at www.injuryfellowship.org.

Conclusion and Recommendations

The IHS Injury Prevention Fellowship Program is unique in that it specifically addresses the injury prevention needs of tribal communities; provides diversity in learning methods and training locations; offers in-depth training for, and interaction among, individuals employed by both the IHS and tribes; and emphasizes practical, hands-on experiences that online courses cannot duplicate. Based on the career paths of the fellowship graduates, the impact of their year-long projects, and their numerous publications, the fellowship has been effective in the long-term.

Among the recommendations from graduates for how the fellowship might be improved were the following: more extensive dissemination of project results throughout IHS, tribes, state health departments, and other agencies; more emphasis on the prevention of intentional injuries, such as domestic violence and suicide; and recruitment of fellows from other tribal and IHS disciplines, such as health promotion/disease prevention, behavioral health, and nursing.

A philosophical cornerstone of the fellowship program has been that the educational *process* is as important as the *content*. Sustaining the individual's commitment to the field of injury prevention requires that the training program 1) promote a sense of competence by incorporating concepts of adult-centered learning (e.g., sharing experiences, individualized goals, small group work); providing community and academic mentors to help guide projects to successful conclusions; conducting a field course requiring specific deliverables in a short time frame; and emphasizing acquisition of practical skills (use of GPS devices, focus groups, digital cameras, and the Internet; oral and written presentation skills, preparation of funding proposals); and 2) enhance networks of support by having role models as presenters; conducting team-building exercises; creating space for social activities; and holding courses in a variety of geographic locations and settings (tribal agencies, universities, IHS facilities); and 3) instill hope by identifying funding opportunities for injury prevention interventions and by sharing success stories from Alaska Native and American Indian communities throughout the United States.

Information about applying for the IHS Injury Prevention Fellowship is available at *http://www.ihs.gov/MedicalPrograms/InjuryPrevention*. Applications for the class of 2007 are due December 15. For further information about the fellowship, please contact:

Lawrence Berger, MD, MPH
Phone and fax: (505) 275-3153
e-mail: *bergerlaw@msn.com*

For further information about the IHS Injury Prevention Program, please contact:

Nancy Bill, MPH, IHS Injury Prevention Manager
Phone: (301) 443-010
Fax: (301) 443-7538
e-mail: *nancy.bill@ihs.gov*

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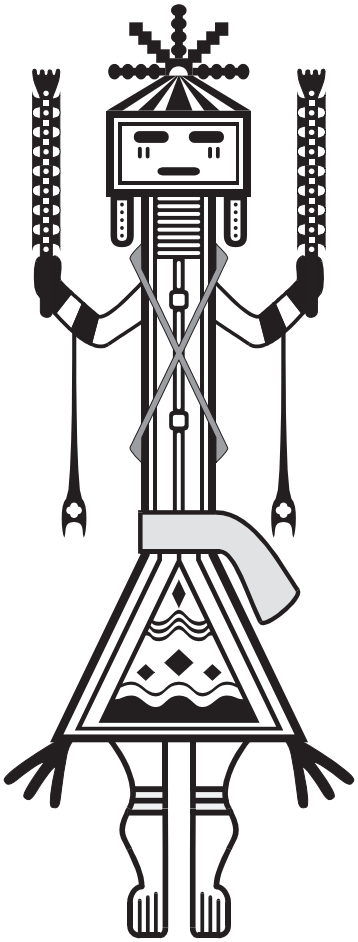


19th Annual IHS Research Conference
NEW DATES: June 4 - 7, 2007; Phoenix, Arizona

The 19th Annual Indian Health Service (IHS) Research Conference, *"Multiple Perspectives on Research Policy in Indian Country"* will bring together stakeholders in American Indian/Alaska Native (AI/AN) research activities from across the continent. This will include clinicians, administrators, educators, consumers, and community and tribal government leaders, as well as researchers. The three-day general conference from June 5 - 7 will enhance our collective ability to provide the benefits of biomedical, psychosocial, and health services research to Native tribes and peoples. The conference will include multiple perspectives on research activity in AI/AN communities. On June 4, a special preconference training will be offered for grant applicants who wish to improve their prospects of funding their research with grants from NIH, AHRQ, or the NARCH program. This training is offered in collaboration with the National Institute on Drug Abuse (NIDA), and the emphasis will be on behavioral health research applications. Members of the IHS Institutional Review Boards (IRBs) will also hold a meeting on the afternoon of June 4.

Sponsorship, Abstracts, Registration and Updates:

The conference is sponsored by the IHS Research Program, the Native Research Network (NRN), and the IHS Clinical Support Center (CSC), the accredited sponsor. There is no registration fee. Participants who want to present their research (orally or by poster) should prepare an abstract using the electronic form in the Call for Abstracts at: *http://www.ihs.gov/MedicalPrograms/Research/conferences.cfm* and e-mail it (in Word format) to Leslie L. Randall, RN, MPH by COB **March 19, 2007** (see Call For Abstracts) at *leslie.randall@comcast.net*, with a copy to Alan Trachtenberg, MD, MPH at *atrachte@hqe.ihs.gov*. For questions about abstract submission, Ms. Randall may be reached by telephone at (503) 621-8996 (cell) or (503) 697-7397 (home), and Dr. Trachtenberg at (301) 443-0578.

On-line registration will be available by late February on the CSC website at: *http://www.ihs.gov/MedicalPrograms/ClinicalSupportCenter/*. Conference updates will be posted on the IHS Research Program website at: *http://www.ihs.gov/MedicalPrograms/Research/conferences.cfm*.

Hotel:

The conference will be held at the Sheraton Crescent Hotel, 2620 West Dunlap Avenue, Phoenix, Arizona 85021, telephone (602) 943-8200, fax: (602) 371-2857. The room rate is $74.00 per room, per night, plus tax, single/double occupancy (this is the approved Federal government rate). Be sure to mention the "Indian Health Service" when making your reservations. Deadline for making room reservations at the conference rate is **May 2, 2007**. The hotel's toll free number is 1-800-423-4126, or book your room on-line at *http://www.starwoodmeeting.com/StarGroupsWeb/res?id=0702026635&key=90F25*.

CE Information:

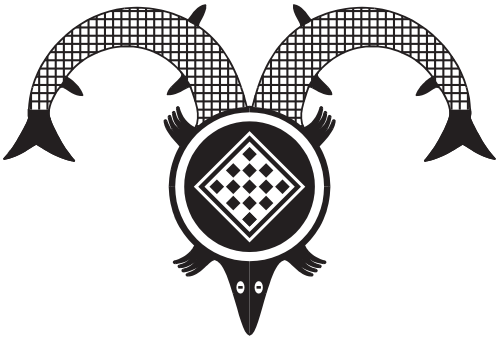
The IHS Clinical Support Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The IHS Clinical Support Center is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Further Information:

For more information about the conference program, please contact Alan Trachtenberg, MD, MPH, IHS Conference Co-Chair (*atrachte@hqe.ihs.gov*) or Donald Warne, MD, MPH, NRN Conference Co-Chair (*donald.warne@asu.edu*). For more information about registration or continuing education, please contact Dora Bradley (*theodora.bradley@ihs.gov*) or Gigi Holmes (*gigi.holmes@ihs.gov*) at the IHS Clinical Support Center, or call (602) 364-7777.

Conference Dates:

Please note that **June 4 - 7, 2007** are the **new dates** for this annual IHS research Conference, which was formerly scheduled for April.



Clinical Reporting System (CRS) Update

Stephanie Klepacki, CRS Project Coordinator, Albuquerque, New Mexico

CRS 2007 Training Options

CRS training is being offered again this year as both live, Internet-based (WebEx) and on-site classes. The training has been restructured to better meet the needs of the participants. Three types of classes are being offered, as shown below. CME credit is available for physicians, nurses, and pharmacists; the IHS Clinical Support Center is the accredited sponsor.

- Beginning GPRA and CRS 2007
  - *Target Audience*: New GPRA coordinators, providers, and QA/QI staff with little or no understanding of GPRA and CRS
  - *Length*: Two, 2-hour sessions on two consecutive days
  - *Number of WebEx Sessions*: Five
- Advanced CRS 2007
  - *Target Audience*: Experienced CRS users with a good understanding of GPRA and CRS, including GPRA Coordinators
  - *Length*: One 3-hour class
  - *Number of WebEx Sessions*: Five
- Overview of GPRA and CRS 2007
  - *Target Audience*: Managers, administrators, CEOs, Service Unit Directors
  - *Length*: One 2-hour class
  - *Number of WebEx Sessions*: Three

The WebEx training will be offered to all IHS Areas this year and will not be limited to one particular Area for each session. Pre-registration is required and multiple participants at a single facility are encouraged to attend as a group, as each session is limited to 28 participants and two instructors. For participants attending by WebEx as a group, only one person should register for the session(s), and a conference room, conference phone, computer/TV and projector are required.

In addition, the Navajo and Tucson Areas are hosting on-site training at their respective Area Offices. A schedule of the WebEx and on-site classes, class agendas, and instructions for registering are available at the CRS web site at *http://www.ihs.gov/misc/links_gateway/download.cfm?doc_id=10709&app_dir_id=4&doc_file=CRS_2007_Training_Schedule-011007.pdf*

For additional information, please contact Stephanie Klepacki at (505) 821-4480 or by e-mail at *Stephanie.Klepacki@ihs.gov*,

The Association of American Indian Physicians to host the following events in 2007

15th Annual Cross Cultural Medicine Workshop: to be held April 26-28th, 2007 at the Marriott Pyramid North in Albuquerque, New Mexico. The purpose of the workshop is to provide health care providers and medical students with a greater understanding of the relationships between Traditional and Western Medicine. For additional information and/or to register for the workshop, please contact Misty Davis, AAIP Executive Assistant at *mdavis@aaip.org*.

10th Annual National Native American Youth Initiative: to be held June 23 - July 1, 2007 in Washington DC. American Indian/Alaska Native (AI/AN) high school students, ages 16 - 18, who have an interest in the health careers and/or biomedical research are encouraged to apply. To accompany the students, AAIP is accepting applications for counselors, age 21 and older, to serve as role models during the nine-day program. AI/AN college students and health professionals are encouraged to apply. Applications must be postmarked by April 20, 2007. For more information, contact Lucinda Myers, NNAYI Program Director at *lmyers@aaip.org*.

36th Annual Meeting and Health Conference: to be held July 26 - 31, 2007 at the Gaylord Opryland Resort & Convention Center in Nashville, Tennesee. The theme is "One Culture, Two Worlds: Connecting Tribal and Urban Indian Health." **Call For Abstracts:** AAIP is seeking presentations that address current issues regarding Urban Indian Health.

For questions regarding the above events, please contact the AAIP office at 1225 Sovereign Row, Suite 103, Oklahoma City, Oklahoma 73108, telephone (405) 946-7072, fax (405) 946-7651, or at *http://www.aaip.org*.

Editor's Note: The following is a digest of the monthly Obstetrics and Gynecology Clinical Consultant's Newsletter (Volume 5, No. 2, February 2007) 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.

OB/GYN Chief Clinical Consultant's Corner Digest

Abstract of the Month

Low hanging fruit: Promotion of healthy lifestyles during and after pregnancy: less DM

Gestational diabetes mellitus (GDM) affects approximately 2% to 4% of all pregnant women in the US each year. Women who have had GDM are at high risk for developing nongestational diabetes. The objective of this study was to assess the prevalence of modifiable risk factors for developing diabetes among women with previous GDM only.

Methods: Cross-sectional data for nonpregnant women from the 2003 Behavioral Risk Factor Surveillance System were used to estimate and compare the prevalence of modifiable risk factors among three groups: nonpregnant women with previous GDM only, nonpregnant women with current diabetes, and nonpregnant women without diabetes.

Results: In 2003, 7.6% of nonpregnant women aged 18 years and older in the United States had current self-reported, physician-diagnosed diabetes, and 1.5% had previous GDM only. Compared with women without diabetes, women with previous GDM only had higher prevalence of no leisure-time physical activity (32.0% vs 25.7%), overweight (62.2% vs 49.0%), and obesity (29.4% vs 20.0%). After adjusting for sociodemographic variables, women with previous GDM only were more likely to have no leisure-time physical activity (prevalence odds ratio [POR], 1.4; 95% confidence interval [CI], 1.2–1.7) and more likely to be overweight (POR, 1.8; 95% CI, 1.6–2.2) or obese (POR, 1.7; 95% CI, 1.4–2.1), compared with women with no diabetes.

Conclusion: Women with previous GDM are more likely to have modifiable risk factors for developing diabetes than women without diabetes. More attention to this issue is needed from health care providers and public health officials to encourage the promotion of healthy lifestyles during and after pregnancy.

Yun S, et al. Modifiable risk factors for developing diabetes among women with previous gestational diabetes. *Prev Chronic Dis.* 2007 Jan;4(1):A07.

OB/GYN CCC Editorial comment

In GDM, many times the chance to make changes in postpartum lifestyle is squandered. Russell et al, below, report that the glucose often goes unchecked. One successful model has been the utilization of intense case management. Here is a model to consider.

Exercise counseling consists of aerobic activities such as walking or stationary cycling. Frequency: 3 days per week. Duration: 20 - 45 minutes per session. Moderate intensity: The "talk-sing test" may be used (the patient should be able to talk while exercising but not sing) or rating of perceived exertion (RPE) of "fairly light" to "somewhat hard."

Initial exercise consult: Assessment of current physical activities and level of readiness for exercise education/information on exercise and GDM, and individualized exercise plan.

The full program is described in the online version of this digest.

From Your Colleagues

Judy Thierry, HQE

Consumer Reports: Only 2 out of 12 infant car seats performed well in crash tests

Consumer's Union, publisher of Consumer Reports, conducted crash tests on 12 infant car seats at 35 mph (frontal crash) and 38 mph (side-impact crash), the speeds currently used to crash test most new cars and minivans. Base-mounted, rear-facing seats, suitable for children under one year and 22 lbs according to the manufacturers, were found to detach from their bases or twist violently, damaging test dummies in some cases. While the federal New Car Assessment Program scores crash safety in the form of highly publicized "star" ratings, no similar score is used to rate infant and child safety seats. Manufacturers have improved car designs based on star ratings but there is no such incentive for car seat manufacturers. The tests also highlighted ongoing problems with the federally-mandated LATCH system, where most car seats performed less well using LATCH than when attached with vehicle safety belts. A NHTSA report issued late last month stated that 40% of parents use safety belts instead of the LATCH system because of confusion about the system.

Hot Topics

Obstetrics

Teamwork training: decision to incision times significantly improved

Conclusion: Training, as was conducted and implemented, did not transfer to a detectable impact in this study. The Adverse Outcome Index could be an important tool for comparing obstetric outcomes within and between institutions to help guide quality improvement. LEVEL OF EVIDENCE: I.

Nielsen PE, et al. Effects of teamwork training on adverse outcomes and process of care in labor and delivery: a randomized controlled trial. *Obstet Gynecol.* 2007 Jan;109(1):48-55.

OB/GYN CCC Editorial comment

Put innovation into motion: National Indian Health MCH and Women's Health meeting. Another successful example is the 100,000 Lives Campaign, which is an initiative to engage US hospitals in a commitment to implement changes in care proven to improve patient care and prevent avoidable deaths. The Institute for Healthcare Improvement estimates that the lives saved as of June 14, 2006 was 122,300.

To that end, the National Indian Health MCH and Women's Health meeting, August 15 - 17, 2007 in Albuquerque will highlight speakers from the Institute for Healthcare Improvement and others who have evaluated and treated various health care systems. The meeting has individual facility program review as well as many hours of CME/CEUs. Your facility should send a team to the meeting; you and 2 - 3 other colleagues from different disciplines should start planning now. Go to *http://www.ihs.gov/MedicalPrograms/MCH/F/CN01.cfm#Aug07*

Gynecology

Outreach workers should follow women with the most severe PAP abnormalities

In a health care system in which many women fail to get follow-up care for an abnormal Pap smear, outreach workers were more effective than usual care (mail or telephone reminders) at increasing follow-up rates. The results suggest that outreach workers should manage their effort based on the degree of abnormality; most effort should be placed on women with the most severe abnormality (high-grade squamous intraepithelial lesion).

Wagner TH, Engelstad LP, McPhee SJ, Pasick RJ. The costs of an outreach intervention for low-income women with abnormal Pap smears. *Prev Chronic Dis*. 2007 Jan

Child Health

Rapid flu test trims further tests, treatment

Conclusions: The inclusion of rapid influenza testing for the evaluation of febrile young infants without signs of focal infection during influenza season decreases the need for additional studies and reduces the length of stay in the ED, the use of antibiotic treatment, and unnecessary hospitalizations.

Benito-Fernandez J, et al. Impact of rapid viral testing for influenza A and B viruses on management of febrile infants without signs of focal infection. *Pediatr Infect Dis J.* 2006 Dec;25(12):1153-7.

Chronic Disease and Illness

Sleepiness and sleep deprivation are associated with injury

Results: Better sleep quality in the past 7 days was associated with a lower risk of injury (odds ratio (OR) 0.88, 95% confidence interval (CI) 0.80 to 0.97). Self-reported sleepiness just before injury compared with control time was associated with a lower risk of injury, with ORs of 0.82 per unit on a 0-to-12 scale (95% CI 0.78 to 0.86) in case-control analysis and 0.76 (0.73 to 0.80) in case-crossover analysis. In case-crossover analysis, additional sleep in the 24 hours before injury compared with the 24 hours before that was associated with an increased risk of injury (OR 1.06 per hour, 95% CI 1.03 to 1.09), but this effect disappeared when we controlled for activity, location, and recent alcohol consumption.

Conclusions: Better recent sleep quality was associated with a lower risk of injury, but surprisingly, feeling sleepy was also.

Edmonds JN, Vinson DC. Three measures of sleep, sleepiness, and sleep deprivation and the risk of injury: a case-control and case-crossover study. *J Am Board Fam Med.* 2007 Jan-Feb;20(1):16-22.

Features

ACOG

Guidelines recommend universal screening for Down syndrome regardless of age

Summary of Recommendations and Conclusions

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

- First-trimester screening using both nuchal translucency measurement and biochemical markers is an effective screening test for Down syndrome in the general population. At the same false-positive rates, this screening strategy results in a higher Down syndrome detection rate than does the second-trimester maternal serum triple screen and is comparable to the quadruple screen.
- Measurement of nuchal translucency alone is less effective for first-trimester screening than is the combined test (nuchal translucency measurement and biochemical markers).
- Women found to have increased risk of aneuploidy with first-trimester screening should be offered genetic counseling and the option of CVS or second-trimester amniocentesis.
- Specific training, standardization, use of appropriate ultrasound equipment, and ongoing quality assessment are important to achieve optimal nuchal translucency measurement for Down syndrome risk assessment, and this procedure should be limited to centers and individuals meeting these criteria.
- Neural tube defect screening should be offered in the second trimester to women who elect only first-trimester screening for aneuploidy.

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

- Screening and invasive diagnostic testing for aneuploidy should be available to all women who present for prenatal care before 20 weeks of gestation regardless of maternal age. Women should be

counseled regarding the differences between screening and invasive diagnostic testing.

- Integrated first- and second-trimester screening is more sensitive with lower false-positive rates than first-trimester screening alone.
- Serum integrated screening is a useful option in pregnancies where nuchal translucency measurement is not available or cannot be obtained.
- An abnormal finding on second-trimester ultrasound examination identifying a major congenital anomaly significantly increases the risk of aneuploidy and warrants further counseling and the offer of a diagnostic procedure.
- Patients who have a fetal nuchal translucency measurement of 3.5 mm or higher in the first trimester, despite a negative aneuploidy screen, or normal fetal chromosomes, should be offered a targeted ultrasound examination, fetal echocardiogram, or both.
- Down syndrome risk assessment in multiple gestation using first- or second-trimester serum analytes is less accurate than in singleton pregnancies.
- First-trimester nuchal translucency screening for Down syndrome is feasible in twin or triplet gestation but has lower sensitivity than first-trimester screening in singleton pregnancies.

The following recommendations are based primarily on consensus and expert opinion (Level C):

- After first-trimester screening, subsequent second-trimester Down syndrome screening is not indicated unless it is being performed as a component of the integrated test, stepwise sequential, or contingent sequential test.
- Subtle second-trimester ultrasonographic markers should be interpreted in the context of a patient's age, history, and serum screening results.

Screening for fetal chromosomal abnormalities. ACOG Practice Bulletin No. 77. American College of Obstetricians and Gynecologists. *Obstet Gynecol*. 2007;109:217–27.

Ask a Librarian Diane Cooper, M.S.L.S. / NIH

Diet of pregnant American Indians: different than Whites?

A pregnant woman's diet can influence the outcome of her pregnancy. Is the diet of pregnant American Indians different than whites? A Harvard team sought to find the answer using data from the North Dakota WIC (Women, Infants and Children) program.

They found that the diets of the two groups were not much different. There was a statistical difference in the sample of over 5,000 women, but it was "minimal." Both groups needed improvement, the researchers said. Increases in iron and folate intake were specially recommended. And, as expected, both groups would benefit from eating less fat and more grains and vegetables. AI women had "greater diet diversity," which was a plus.

Comment: The conclusions were flawed because the study did not include the effect of dietary supplements such as prenatal vitamins. Iron and folate are usually in prenatal supplements. Generalizability is weak since the sample was limited to one state. While the study was published in December, 2006, the data reach back to 1996, another reason results are not generalizable. A finding that may be more important was that smoking among AI women was much higher than whites: 46% vs. 28%.

Watts V, et al. Assessing diet quality in a population of low-income pregnant women. *Maternal Child Health Journal*, 2006; Dec 27 Epub ahead of print.

Breastfeeding

Suzan Murphy, PIMC

Supporting employee breastfeeding is easier than it sounds

The Indian Health Services' Lactation Support Circular is part of a new national wave of improvements to the work environment. Establishing guidelines that support moms to work and breastfeed benefits many parts of the work environment.

- When new moms can keep breastfeeding their infants, their children have half the clinic visits for diarrhea and otitis media and dramatically lower rates of hospitalizations rates for lung and gastrointestinal illnesses.
- Breastfeeding moms need less leave for sick infants, reducing the burden to their co-workers for unexpected absences.
- Breastfed babies are cheaper to care for medically. Ball et al found significantly less health care/insurance dollars spent for illness with breastfed babies compared to formula fed babies.
- Aetna Life and Casualty, Hartford CT is a forerunner in supporting breastfeeding. They established an employee breastfeeding center in 1996 because those families required less employee sick leave and lower insurance claims. Their return on investment is $2.18 for every $1.00 spent.
- Research on employee and management satisfaction indicates that supporting the choice to breastfed improves job satisfaction and productivity.

So what is the easy part about supporting employee breastfeeding?

- It is mom-driven. Once the work place adapts the Circular's suggestions that fit the local needs, it is almost a turn-key operation. Moms use the available resources to continue breastfeeding. Available resource will vary depending on the location; for example, in some work environments, this may mean more flexible schedules, in others it could mean using existing hospital electric breast pumps or encouraging employees to rent their own.

Want some ideas/options about pumps, tips for employees to store their milk, ideas for breastfeeding room etiquette, policy and procedures, etc?

- Watch for the Tool Kit to be released soon.
- For more information, check the IHS MCH Breastfeeding website sections, Going back to work or school, and Staff Resources.

The Lactation Support Circular can be found at *www.ihs.gov/MedicalPrograms/MCH/M/bf.cfm*

International Health Update
Claire Wendland, Madison, WI
What does the future hold in store?

Important news in the world of international health is the recent update of the Global Burden of Disease (GBD) study. The original and groundbreaking 1990 GBD project gathered data from around the world to provide the first truly global estimates of morbidity and mortality due to various causes. Researchers at Harvard University and the WHO, funded by the World Bank, also used their data to make projections of global death rates through 2020. These GBD projections have been used extensively by policymakers at national and international levels to guide resource allocation; however, some of the predictions have already proven to be badly off. In particular, the original report gravely underestimated the impact of HIV/AIDS.

The researchers used 2002 WHO disease prevalence data to model patterns of illness and death under three scenarios of socioeconomic change: a baseline scenario, a pessimistic scenario (in which economic growth is less than expected), and an optimistic scenario (projecting a faster rate of economic growth). In all three cases, they predict that the risk of death for children below 5 will drop substantially by 2030. Life expectancy at birth will rise in all regions, and the disparity between life expectancies in rich and poor countries will narrow somewhat, although in both baseline and pessimistic scenarios the gap will remain very large. Death due to non-communicable disease – particularly ischemic heart disease – will rise, as will death from HIV/AIDS and from road traffic accidents, even in the most optimistic projections. In fact, greater economic growth is expected to result in more road traffic fatalities. Diabetes and cancer will increase, while measles, malaria, and lower-respiratory conditions are projected to decline. By 2015, tobacco will be responsible for 10% of deaths worldwide. The three leading causes of disability are projected to be HIV/AIDS, depression, and coronary artery disease.

Of course it is too much to expect that any such projections can truly accurately forecast the future, and no model, however well constructed, can account for unpredictable events like a world war, pandemic influenza, or the discovery of antibiotics. Two serious and potentially preventable flaws in the study concern me, however. First, the mathematical models assume that future mortality trends in poor countries will respond to economic growth in the same way that they did historically for now-rich countries. There is already evidence to suggest this rosy prediction may not hold true, as overall economic growth in poor countries has in a number of cases been associated with worsening internal inequalities and worsening population health. The second flaw is the failure to address issues of climate change, which researchers believe will have a profound effect on both infectious disease and nutrition. Including some of the climate and disease change models would have added a new level of complexity to an already complicated problem, but omitting them entirely has probably hurt the accuracy of these projections. Even with these two serious caveats, though, this study will be useful and interesting for people who work in health policy, and represents an important update of the now outdated 1990 GBD figures.

Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Medicine*. 3(11):e442, November 2006.

Medical Mystery Tour
A boy has been born in Chile with a fetus in his stomach

To recap from last month, a boy had been born in Chile with a fetus in his stomach in what doctors said was a rare case of "fetus in fetu" in which one twin becomes trapped inside another during pregnancy and continues to grow inside it. Doctors noticed the 4-inch-long fetus inside the boy's abdomen. It had limbs and a partially developed spinal cord but no head and stood no chance of survival, doctors said. After the birth, doctors operated and removed the fetus from the boy's stomach. The boy, who has not been named, was recovering at Temuco's Hernan Henriquez hospital.

Fetus in fetu is a malformed parasitic monozygotic diamniotic twin that is found inside the body of the living child or adult. Thirty one cases have been published before 1900 and only 11 have been published from 1900 to 1956. This pathology is rare and the incidence is 1 per 500,000 births. The living children with fetus in fetu were <18 months except in 11 cases: 20 months (1 case), 5 years (2 cases), 7 years (1 case), 9 years (2 cases), 10 years (1 case), 12 years (1 case) and >15 years (3 cases). Sex ratio was 47 boys to 35 girls (the sex of 5 other cases was undetermined). In 70% of cases, the chief complaint was an abdominal mass. As far as location was concerned, it was predominantly retroperitoneal in 80% of cases, but could be atypical including the skull in 6 cases, the sacrum as in 6 cases, the scrotum in 1 case, and the mouth in 1 case.

In almost all cases (88%), there was a single parasitic fetus apart from 5 reports in which the number of the fetus ranged from 2 to 5. The size and weight of the fetus varied, from 4 cm to 24.5 cm, respectively, and from 1.2 g to 1.8 kg, respectively. The organs present in the fetus in fetu were as follows: vertebral column, 91%; limbs, 82.5% (number varied from 1 to 4); central nervous system, 55.8%; gastrointestinal tract, 45%; vessels, 40%; and genitourinary tract, 26.5%.

The fetus was always anencephalic, the vertebral column and the limbs were present in the fetus in fetu in almost all cases (91% and 82.5%, respectively). The lower limbs were

more developed than the upper limbs. Fetus in fetu was rarely found in the central nervous system, gastrointestinal tract, vessels, or the genitourinary tract; however, it was found in 55.8%, 45%, 40% and 26.5% of cases, respectively. It was rarer still to find fetus in fetu in the lungs, adrenal glands, pancreas, spleen, and lymph nodes. The heart was very rarely found in fetu. The absence of cardiovascular system almost led to misdiagnosis of acardiac fetus in 1 case as the morphology is otherwise similar with findings of anencephaly, absent or rudimentary limbs, absent lungs, short intestine, and single umbilical artery. However, in the case of acardiac twin fetus, the karyotype is abnormal in at least 50% of cases including both trisomy or triploidy whereas the karyotype of fetus in fetu is normal and similar to his host's.

Eighty-nine per cent of fetus in fetu lesions were noted before 18 months of age. In reviewing literature most case reports up to 1980 showed the preoperative diagnosis of fetus in fetu was made only in 16.7% of cases because CT scan was not performed. Nowadays, CT scan has proven very helpful in suggesting the preoperative diagnosis. Magnetic resonance imaging was also used in 4 cases.

The differential radiologic diagnoses were teratoma and meconium pseudocyst. Indeed, these masses often had calcified components, so they were sometimes difficult to differentiate with fetus in fetu. Treatment was complete resection of the mass except when it was adherent to the host's organs. Relapse was observed in 1 case (out of 87 cases) with recurrent right abdominal mass 4 months after surgery. This was a teratoma, which contained cystic, solid, and calcified components. It measured 13 cm in diameter and 5% of the tumor was yolk sac carcinoma. After surgical excision, the patient was treated with chemotherapy and recovered at 2 years of age.

Which venerable medical resource was the original source of this story? While I did not spend enough time in the grocery check out line this month to definitively say if the venerable medical journal, the National Enquirer, also covered this story, I did ask our readers who regularly subscribe the National Enquirer to peruse their personal subscription. Hearing few replies, I will say I first saw this story on Reuters, before I launched my literature review in Pediatrics, PubMed, Journal of Pediatric Surgery, etc.

Midwives Corner

Lisa Allee, CNM, Chinle

The Blessed Perineum: PubMed

As I went hunting for an article to review for this month, I started playing around on PubMed and found an amazing array of articles about the blessed perineum. I encourage you to go looking when you have a spare moment at a computer. However, for the reality that you may only read this, here is a smattering of what I found:

- Leah Albers, et al, our esteemed sisters at UNM, did an awesome study (N=1211) of perineal techniques and found that it made no difference if the midwives used warm compresses, perineal massage, or hands off 'til crowning. But they did find that a sitting upright position and delivering the head between contractions did lower the risk of perineal trauma.
- Terry, et al, (N=198) found that nonsupine positions (defined as sitting, squatting, or kneeling/hands and knees) led to less perineal tearing, less vulvar edema, and less blood loss. They also found that the length of second stage was shorter in nonsupine positions, but this wasn't statistically significant.
- Soong and Barnes (N=3756) found that the semi-recumbent position was associated with more need for perineal suturing and all-fours with less, especially with first births and babies over 3500g. With regional anesthesia they again found the semi-recumbent position associated with more suturing and found that the lateral position caused less need for perineal suturing. The authors suggest that women be given the choice to find the most comfortable position to give birth in and that providers should inform women of the likelihood of perineal trauma in the preferred birth position.
- Shorten, et al, (N=2891) found that the lateral position was the best (66.6% intact perineums) and squatting the worst (42% intact), especially for primiparas. They also found a difference by accoucheur. Intact perineum was achieved by 56-61% of women attended by midwives and 31.9% of women attended by obstetricians, who also had a five times higher rate of episiotomies. (OK, I'm bragging for us just a little).
- Aikins and Feinland (N=1068) studied planned home births and found 69.6% of the women gave birth with an intact perineum (way to go home birth midwives and mothers). In multiparous women, low socioeconomic status and higher parity were associated with intact perineum, whereas older age (≥ 40 yr), previous episiotomy, weight gain of over 40 pounds, prolonged second stage, and the use of oils or lubricants were associated with perineal trauma. Among primiparas, low socioeconomic status, kneeling or hands-and-knees position at delivery, and manual support of the perineum at delivery were associated with intact perineum, whereas perineal massage during delivery was associated with perineal trauma.

So, from the research it sounds like getting women up on their knees, hands and knees, sitting, or lying on their sides is probably a good idea, and using the oils and massage for other parts of the body rather than the perineum may be good, too. Soong and Barnes' suggestion to talk with women about the relationship between birth positions and perineal trauma risk is a great suggestion, but starting the conversation during prenatal care or birth classes would be advisable rather than waiting until second stage.

Over the years I have noticed that my previous enthusiasm for perineal massage and stretching has waned greatly; now I rarely do more than a little pressure just inside the introitus to help the woman focus where to push, if she needs that. I only use warm compresses if I can tell the perineum is so taut that it needs any help I can give it to melt. Most of the time, though, I have noticed that if I can help the whole woman (and everyone else in the room, too) relax, then her perineum melts just fine (I figure that hormone relaxin is doing it's thing!). I also have noticed that I don't say much at all anymore about how she should push and I have noticed the absolute brilliance of women shine through — they push perfectly — letting up when I would have suggested it and pushing when I would have said push. Women know how to give birth in the best way for themselves and their babies; have faith.

Oklahoma Perspective
Greggory Woitte, Hastings Indian Medical Center
What do patients recall from our counseling?

In scanning over the journals this month, I ran across this article from the British Medical Journal. The quick synopsis was that providing mothers of babies in the neonatal ICU audiotaped conversations between the mothers and the neonatalogists helped improve the mother's recall of the diagnosis, treatment plan, and, prognosis.

Although we certainly cannot provide every patient with a taperecorded conversation, it is important to remember that despite our best efforts, there are times when our patients do not understand our plan. Fetal demise and missed abortions are two prominent examples where it is probably better to inform the patient of your findings and schedule follow up appointment when the patient can have their social support system available and has had time to let the diagnosis register.

Koh TH, et al. Provision of taped conversations with neonatologists to mothers of babies in intensive care: randomised controlled trial. *BMJ.* 2007 Jan 6;334(7583):28.

Perinatology Picks
George Gilson, MFM, ANMC
Fish oil supplements during pregnancy are safe and beneficial

Conclusion: Maternal fish oil supplementation during pregnancy is safe for the fetus and infant, and may have potentially beneficial effects on the child's eye and hand coordination. Further studies are needed to determine the significance of this finding.

Dunstan JA, et al. Cognitive assessment at 2? years following fish oil supplementation in pregnancy: a randomized controlled trial. *Arch Dis Child Fetal Neonatal Ed.* 2006 Dec 21.

Planned cesarean delivery doubles rate of NICU and the risk for pulmonary disorders

Results: Compared with planned vaginal deliveries, planned cesarean delivery increased transfer rates to the neonatal intensive care unit from 5.2% to 9.8% (P < .001). The risk for pulmonary disorders (transient tachypnea of the newborn infant and respiratory distress syndrome) rose from 0.8% to 1.6% (P = .01). There were no significant differences in the risks for low Apgar score and neurologic symptoms.

Conclusion: A planned cesarean delivery doubled both the rate of transfer to the neonatal intensive care unit and the risk for pulmonary disorders, compared with a planned vaginal delivery.

Kolas T, et al. Planned cesarean versus planned vaginal delivery at term: comparison of newborn infant outcomes. *Am J Obstet Gynecol.* 2006 Dec;195(6):1538-43.

Key Trainers for Rural HIV Providers

The National Rural Health Association (NRHA) has developed several new documents on delivery of HIV care in rural settings. The first two documents listed below identify AIDS Education and Training Centers (AETCs) as crucial resources for training providers on delivery of HIV care. NRHA's work was sponsored by the HHS Office of HIV/AIDS Policy, with input from HRSA/HAB and other Federal agencies. "Provider Training Techniques" discusses barriers to training providers in rural areas and offers strategies on how to effectively train rural providers. Go to *http://nrharural.org/opporty/pdf/HIV_Provider_Training.pdf* .

Women's Health Headlines
Carolyn Aoyama, HQE
What Causes Breast Cancer?

The Sister Study must enroll 20,000 more women in 2007 to help find the answers. You can help get these 20,000 sisters in 2007 by:

- Forwarding this to everyone in your contact address list
- Taking Sister Study materials to places where eligible women may be, such as doctors' offices, beauty salons, churches/synagogues, meetings, workplaces, conferences, events, etc.
- Making a pledge to personally find 5 eligible women to enroll in the study
- Writing a letter to your newspaper editor with a personal story

Help the Sister Study now! Let's put a stop to breast cancer! For questions or more information, call toll-free 1-877-474-7837, or log on to *www.sisterstudy.org*.

A woman is eligible to join this landmark national breast cancer study which looks at how environment and genes may affect the chances of getting breast cancer if your sister (living or deceased), related to you by blood, had breast cancer; you are between the ages of 35 and 74; you have never had breast cancer yourself; and you live in the United States or Puerto Rico. The study is conducted by National Institute of Environmental Health Sciences, one of the National Institutes of Health of the U.S. Department of Health and Human Services.

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.

IHS Child Health Notes

Quote of the month

"The most effective way to remember your wife's birthday is to forget it once."

Anonymous

Editorial Comment

The essay below by Dr. Ratmeyer grew out of conversation at a Navajo Area Pediatric meeting this past fall. Dr. Ratmeyer makes an important plea for empathy and dialogue, not just criticism. This collaborative approach will allow health professionals to develop a successful working relationship with tribal employees that will benefit American Indian and Alaska Native children.

Understanding the Child Protection Role of Child Health Care Practitioners in Indian Country

Recently, pediatricians working on the Navajo Nation asked me to share my thoughts about our role in child protection. Although much of what I'll say comes out of my 15 years of experience at the Gallup Indian Medical Center, I suspect that many of my observations are applicable to doctors and other medical practitioners working elsewhere with Native American populations.

I have to start out by saying that I feel the pain of everyone tasked to interact with our social work and law enforcement agencies in Indian Country. We need to first acknowledge the reality of the professional environment in which we work. Although there are many examples of professional competence mixed with caring individuals doing the work of child protection, we tend to see agencies whose work product is the result of underfunding, undertraining, and understaffing.

We have workers who have no training other than "on-the-job," courtesy of the previous child protective service (CPS) worker or police officer. There are often minimal job requirements for these positions. Most tribal social work (SW) positions don't require a degree in social work. Many Family Court judges also may have little experience with the Navajo Nation's Children's Code, which is supposed to guide Family Court decision-making. We, in the medical profession, come from an entirely different world of expectations and experience in which we are not put "on the job" until after at least seven years of intense training. That being said, we can only do the medical job for which we trained, with a bit of child advocacy to create and support a system that protects children. We cannot be social workers, we cannot be law enforcement officers, and we cannot be officers of the court, either prosecutors or judges.

Our temptation is always to step out of our own discipline to point out the shortcomings of those in other disciplines, because of what we think they should be doing. A better and more effective approach is to come to understand what those in these agencies do. We need to learn about their reality, including what allows for such difficulty in responding to child maltreatment.

To do that, we have to stay in dialogue. We dehumanize people when we view them as equivalent to what they do (or, as we see it, what they fail to do). And it shows in how we talk to people. We — often unwittingly — paint ourselves as aloof, self-righteous, intolerant, and unapproachable when we go on our tirades lambasting CPS staff for what we perceive as poor performance. It's a sure way to burn bridges. People will avoid us, refuse to speak with us, and work around us and at cross purposes to what we want to and need to do in these cases. We need to cooperate. We do that by talking, not just about work, but by getting to know one another by name and developing healthy personal relationships. They need to get to know us for who we are, as well as for what we do.

The only way to do that is by establishing a routine of regular meetings, always at the same time/day, in the same place, month after month, year after year. It requires that we commit to the process, as well as the entity, of the multi-disciplinary team. People need to understand we approach these situations from the perspective of diagnosis and treatment, just as we need to understand that they do so with a set of expectations imposed by the law and the courts. We have to be very objective in approaching this work within our own discipline, but we have to be more subjective about how people in other disciplines approach this work. We have to be aware of their shortcomings and the environment that allows those problems, while resisting the temptation to destructively criticize everything they do. Lastly, we need to do our job with a standard of excellence that makes us shine. People will look at us and say, There goes a real professional! He/she knows so much and understands so much. He/she's so good at sharing that knowledge with us. He/she's so good at listening to our concerns. He/she has such good suggestions about

how to approach this problem. And he/she really cares about kids. If the CPS people can say things like this about us, then our stature grows. They trust us. They call us to ask about how to approach a particular problem, to discuss the urgency of an exam, to gain understanding about a chronic health condition of one of the kids in custody. That's collaboration and that's what we want.

This takes patience, insight, consistency, and commitment! This is what has worked for me over the years. But, I love the work and I love the process. And I appreciate the people in CPS who struggle against great odds to deliver a "good product." Most of all, I want to protect kids. If we all truly want that, we'll realize that making incremental change over a long period of time is far more reasonable than tilting at windmills, while alienating entire agencies, to effectively lock us out of any influence over decision-making in the ultimate dispositions of these families embroiled in violence, abuse, and neglect. Building relationships between professionals and establishing continuity and consistency in our child protection processes may prove the most effective way to advocate for all our Native children and their families. And that may just bring us all some peace of mind.

John Ratmeyer, M.D., FAAP
Gallup Indian Medical Center
E-mail: *john.ratmeyer@ihs.gov*

Infectious Disease Updates.
Rosalyn Singleton, MD, MPH
Human Papilloma Virus (HPV) Vaccine Rollout Issues: Cost and Availability

Quadrivalent HPV vaccine (Gardisil®), which prevents two HPV serotypes associated with 70% of cervical cancer and two types of HPV serotypes associated with 90% of genital warts, promises to be an important tool in our prevention armamentarium. The vaccine is a 3-dose series and is licensed for 9 - 26 year old females. ACIP recommends routine vaccination of 11 - 12 year old females with catch-up vaccination for 13 - 26 year olds. This vaccine is available through the Vaccines For Children program (VFC), and some states have already started offering it to all VFC eligible (which includes American Indian and Alaska Native) females 9 - 18 years.

However, the cost of the vaccine (per dose costs are $120 private market, $96 federal contract) has put stress on the ability of states with universal vaccine programs like Washington, Alaska and New Mexico to provide HPV vaccine universally. Universal states combine VFC funding with other state and federal funding to provide free vaccines for all children ≤18 years old. As these states gear up to provide HPV vaccine, some may initially restrict HPV vaccine to a limited age group (e.g., 11 - 12 year old VFC-eligible), but eventually the vaccine should be available to all VFC-eligible females 9 - 18 years.

There is a variation in the rollout of HPV vaccine in Indian Health Service and tribal facilities depending on the availability of the vaccine through state VFC programs. Because the vaccine is not yet available in some states, at least one tribal facility has purchased HPV vaccine and is seeking Medicaid and private insurance reimbursement. If you have concerns about how HPV vaccine will be rolled out in your state, please contact Amy Groom at *Amy.Groom@ihs.gov*.

HPV forecasting will be incorporated into the next version of the RPMS immunization package and will probably include options for forecasting for either 11 - 12 year old or 11 - 26 year old females.

Recent literature on American Indian/Alaskan Native Health
Doug Esposito, MD

Early Otitis Media Among Minnesota American Indians: The Little Ears Study. *IS J Public Health* 2006 Dec 28; [E Pub ahead of print] *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17194873&query_hl=2&itool=pubmed_DocSum*

Summary

This study was designed to investigate the epidemiology of and risk factors for the development of early onset otitis media (OM) in a group of mostly Ojibwe infants living in a rural reservation or urban setting in Minnesota. Pregnant women 16 years and older were recruited into the study between June 1998 and April 2001. To be eligible, either the mother or the father had to self-identify as Native American.

Data were gathered through interviews conducted during the prenatal period and at 2 weeks and 6 months postpartum. Ears were examined by trained research nurses and tympanograms completed in enrolled infants at 2 weeks and 2, 4, and 6 months of age. In addition, hearing screenings were performed at least 4 times during the study and medical records were reviewed. A series of questionnaires were distributed at various intervals. Rigorous criteria were employed in the diagnosis of OM combining results from the ear examinations, tympanograms, and hearing screenings obtained during study visits. OM diagnoses were also tallied from clinic visit notes.

The study sample consisted of 408 women. This represented a participation rate of only 20%, a potential source of significant study error. Sufficient data for inclusion in the analysis were collected on a lesser number of participants.

Of the total universe of eligible study participants, 344 infants completed ear examinations in the first 6 months of life. Of those, 63% or nearly two thirds of the infants had at least 1 episode of OM and 34% had 2 or more episodes. OM occurred before 2 months of age in 25%, between 2 and 4 months of age in 40%, and between 4 and 6 months of age in 35% of these infants. Risk factors significantly associated with the development of early onset OM included a preceding URI and a maternal history of childhood OM. Risk factors found to be associated with OM in previous studies such as short breast-feeding duration and tobacco smoke exposure were not replicated here.

Editorial Comment

According to the authors, the incidence of early onset OM in this study exceeds that found in a similarly designed study of a White cohort of infants in Minnesota (63% vs. 48%). This study of mostly Ojibwe infants supports what many IHS pediatricians already know to be true: that Native American children have more OM at an earlier age than other US populations. Other studies exist that thoroughly validate this perception.[1]

Unfortunately, the authors tread on dangerously thin ice when they allude to a possible genetic predisposition of Ojibwe infants to early onset OM. The authors base this conclusion solely on a statistically significant association between early onset OM in study infants and a maternal history of childhood OM. They also suggest that a poorly done study of Apache infants published in the late 80s also supports this contention.[2] No such conclusion can be reasonably drawn from either study design, in my opinion, and the authors of the Apache study make no such assertion.

As any regular reader of my reviews knows, I flatly reject the notion that genetics can in any way explain the significant health disparities suffered by minority populations (please refresh your memories by reviewing two previous editions of the IHS Child Health Notes: *http://www.ihs.gov/MedicalPrograms/MCH/M/documents/ICHN107.doc*, *http://www.ihs.gov/MedicalPrograms/MCH/M/documents/ICHN306.doc*), although variation between individuals within a population can occur on a genetic basis. Yes, "race" does in fact exist, but it is a purely human invention, born entirely out of the human psyche.

The paper under review is particularly rife with uncontrolled bias and confounding on many fronts, and independent of my own perhaps quirky personal prejudice, no reasonable conclusion invoking genetic factors as a source of disparities in early onset OM in the studied population can be drawn. This is yet another unfortunate example of the ongoing medical institutionalization and ratification, or "biologification," of racism. C'mon guys, more critical thought processes are surely in order!

Let's no longer scapegoat the biology of minority populations as the source of their own suffering. Ample scientific evidence compels the conclusion that health disparities derive in their largest part from socially imposed inequities and injustices in exposure and access to resources (i.e., poverty and all its trimmings and trappings). Although it is easier, more convenient, and more comfortable to blame the victim than to blame society and ourselves, we must trash junk science and finally take responsibility for the existence of health disparities in the US. We need look no further than five hundred years of exploitation and domination of a "race" of people for answers. Accepting this, I believe, is the critical first step that will free a just society to make hard choices and truly end health disparities once and for all.

Additional Reading

1. Todd NW. Familial predisposition for otitis media in Apache Indians at Canyon Day, Arizona. *Genet Epidemiol*. 1987;4(1):25-31.http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=3569876&query_hl=1&itool=pubmed_docsum
2. Curns AT, Holman RC, Shay DK, et al. Outpatient and hospital visits associated with otitis media among American Indian and Alaska native children younger than 5 years. *Pediatrics*. 2002 Mar;109(3):E41-1. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=11875169&query_hl=2&itool=pubmed_docsum

Announcements from the AAP Indian Health Special Interest Group

Sunnah Kim, MS

Locums Tenens and Job Opportunities

If you have a short or long term opportunity in an IHS, tribal or urban facility that you'd like for us to publicize (i.e., AAP website or complimentary ad on Ped Jobs, the official AAP on-line job board), please forward the information to *indianhealth@aap.org* or complete the on-line locum tenens form at *http://www.aap.org/nach/locumtenens.htm*.

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A journal for health professionals working with American Indians and Alaska Natives

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