Vaccinating Mom Protects Baby, Too! A Study Conducted at Seven Navajo and White Mountain Apache Hospitals Shows Maternal Vaccination Lowers Illness Rates in Newborns

Amy Groom, MPH, CDC Public Health Advisor/IHS Immunization Program Manager, Albuquerque, New Mexico

While all adults should receive both the influenza and the tetanus, diphtheria, acellular pertussis (Tdap) vaccines, these vaccines are particularly important for pregnant and postpartum women. Not only do they afford protection to the mother, they also protect infants from these potentially deadly diseases.

Influenza Vaccine

Inactivated influenza vaccine has been recommended for pregnant women since 1997. Pregnant and post-partum women are more likely to suffer severe complications from influenza, and in past flu seasons have experienced increased hospitalizations and deaths related to influenza. Inactivated influenza vaccine can and should be administered to pregnant women in any trimester. There is no preference for preservative-free vs. preservative containing influenza vaccine for use in pregnant women.

In addition to protecting woman from influenza and influenza-related complications, a recent study conducted on the Navajo and White Mountain Apache reservations found that infants born to women who received influenza vaccination during pregnancy had reduced medically-attended influenza-like-illness (ILI) compared to infants born to unvaccinated mothers. The study included 1160 mother/infant pairs in three influenza seasons, from November 2002 - Sept. 2005. A 41% decrease in laboratory-confirmed influenza was found for infants of influenza vaccinated mothers compared with infants of unvaccinated mothers (relative risk[RR],0.59; 95% confidence interval,0.37-0.93). In addition, the study found a 39% reduction in ILI hospitalizations among infants born to vaccinated mothers vs. infants born to unvaccinated mothers (RR,0.61; 95% confidence interval, 0.45-0.84). They also found that infants born to vaccinated mothers had significantly higher protective antibody titers than the unvaccinated group at delivery, in cord blood, and in the infant at 2 to 3 months of age for all eight vaccine strains tested. There were no significant differences in the levels of antibody among infants whose mothers received the vaccine in the 2nd vs. 3rd trimester. The results from this study are consistent with findings from a previous study, and highlight the importance of maternal influenza vaccination as a strategy for protecting infants < 6 months from influenza and its complications.

Tdap

Tdap vaccine has been recommended for routine use in adults since 2005, and for routine use among post-partum women since 2006. Pertussis is a potentially deadly disease in infants, and household contacts, particularly mothers, are the primary source of infection among infants. Pertussis activity has been increasing in recent years, the most recent example being in California, which is experiencing a statewide

In this Issue...

255 Vaccinating Mom Protects Baby, Too! A Study Conducted at Seven Navajo and White Mountain Apache Hospitals Shows Maternal Vaccination Lowers Illness Rates in Newborns
258 Long-Term Training Opportunity for Nurse Anesthesia
261 Rehabilitation Medicine and Urinary Incontinence Therapy
262 IHS Child Health Notes
265 Meetings of Interest
266 Position Vacancies
epidemic that, as of Oct. 30th, 2010 has resulted in the deaths of ten infants. In order to protect infants from pertussis, the Advisory Committee on Immunization Practices (ACIP) voted in their October 2010 meeting to recommend that all adults, especially those with contact with infants < 12 months, receive a dose of Tdap as soon as possible, regardless of the interval since their last Td. While pregnancy is not a contraindication for Tdap vaccination, the current data do not sufficiently address the safety of Tdap for pregnant women. Women who have not received a dose of Tdap previously should receive a dose in the immediate postpartum period, prior to discharge. In addition, ACIP passed a permissive recommendation that adults 65+ who will have contact with infants < 12 months should receive a dose of Tdap, although the vaccine is not currently licensed for use in this age group.

CCC Ob/Gyn Editorial Comment
Jean Howe, MD, MPH

There is increasing awareness that some groups are at higher risk for serious illness, hospitalization, and death from influenza. These high risk groups include pregnant women and American Indians and Alaska Natives, as well as the very young and the elderly. This health disparity was clearly demonstrated in the recent H1N1 outbreak, where hospitalization and mortality rates for pregnant women and for AI/AN were significantly higher than the US rate overall.

The newly published maternal influenza study is an important addition to our understanding of strategies that can help address this disease disparity. It represents an important contribution to medical science by the mothers who agreed to participate, themselves and to enroll their infants. It also reflects the success of the ongoing collaboration between Johns Hopkins University and Native American health facilities in the southwest. Congratulations to all!

We have encouraged all pregnant women to be vaccinated against influenza for several years, urging them to protect themselves from illness. Now we can confidently encourage influenza vaccine to protect both the mother and her baby. All pregnant women receiving care at IHS facilities should be offered influenza vaccine regardless of trimester. All postpartum mothers who have not received a Tdap booster and are more than two years out from their last tetanus vaccine should receive Tdap at hospital discharge. Babies should be within a “circle of protection” of healthy household contacts who are all vaccinated against both influenza and pertussis. Please work with your facilities to break down any barriers to family immunization. Also, if you haven’t had a flu vaccine yet or need a pertussis booster, get one today!

Prompt antiviral treatment was associated with better outcomes and remains an important secondary strategy for combating influenza, especially in pregnant women. Please refer to the resources below for information on vaccination in pregnancy and on influenza diagnosis and treatment.

Resources
CDC Influenza Website: http://www.cdc.gov/flu/

CDC Information on Vaccination in Pregnancy: http://www.cdc.gov/vaccines/pubs/preg-guide.htm

“Dear Provider” Letter: A joint statement from ACOG, AAP, CDC and several other organizations about the importance of vaccinating all pregnant women against the flu.

IHS Influenza Website: http://www.ihs.gov/flu/index.cfm

U.S. Government Influenza Website: http://www.flu.gov/

References
Full Article: http://archpedi.ama-assn.org/cgi/content/short/archpediatrics.2010.192

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5908a1.htm?s_cid=rr5908a1_w


Maternal and Child Health Distance Learning Graduate Certificate Program Announcement

The University of Arizona will be offering a Maternal and Child Health Public Health Distance Learning Graduate Certificate Program starting in the summer of 2010! This program has been developed by the University of Arizona and the University of Kentucky in partnership with the United South and Eastern Tribes (USET) to meet the educational needs of individuals working in tribal and rural health care settings throughout Indian Country. This may include public health nurses, registered nurses, dieticians, nurse practitioners, physicians, physician assistants, health planners, health educators, social workers, program planners, WIC staff, or other health professionals who serve populations in Indian Health Service Areas. This program will provide students with skills to

1. Enhance in depth knowledge of maternal and child health;
2. Use epidemiology tools for clinical and managerial decision-making;
3. Design health intervention programs and evaluations;
4. Identify key components in project grant applications;
5. Create and use health messaging effectively;
6. Engage families and communities in health interventions; and,
7. Develop leadership skills for public health practice.

This will be a twelve-month, 14-credit online graduate certificate program that is open to all individuals who have completed a four year degree. These credits may be transferred from the University of Arizona if a student chooses to seek a master in public health degree. Interested individuals will be applying for admission to the University of Arizona. A limited number of scholarships will be available to qualified individuals currently working in tribal or rural health settings. To find out how to apply or for more information, please go to http://www.usetinc.org/Programs/USET-THPS/TribalEpiCenter.aspx and click on the MCH Certificate Program link found on the left hand side of the page, or contact Nichole Blackfox, USET Project Assistant at nichole@usetinc.org.
Long-Term Training Opportunity for Nurse Anesthesia

What is Nurse Anesthesia?

The practice of anesthesia is a recognized specialty in both nursing and medicine. Anesthesiology is the art and science of rendering a patient insensible to pain by the administration of anesthetic agents and related procedures. Established in the late 1800s as the first advanced clinical nursing specialty, nurse anesthesia developed in response to the growing need surgeons had for anesthetists. Certified Registered Nurse Anesthetists (CRNAs) have played significant roles in developing the practice of anesthesia. Today, more than 37,000 CRNAs provide cost-effective, high-quality patient care that is essential to America’s health care system. As anesthesia specialists, CRNAs administer approximately 30 million anesthetics to patients in the United States each year. During surgery, the patient’s life rests in the hands of the anesthesia provider. This awesome responsibility requires CRNAs to fully utilize every aspect of their anesthesia education, nursing skills, and scientific knowledge. CRNAs stay with their patients for the entire procedure, vigilantly monitoring the patient’s vital signs, regulating the anesthetic as necessary, analyzing situations, making decisions, communicating clearly with the other members of the surgical team, and responding quickly and appropriately in emergencies. CRNAs practice according to their expertise, state statutes and regulations, and institutional policy.

The Indian Health Service (IHS) Headquarters Division of Nursing will sponsor two Commissioned Corps Nurse Officers in the Long-Term Training study of Nurse Anesthesia. Upon completion of this course of study, the officer(s) will qualify to sit for the Certified Registered Nurse Anesthetists (CRNA) boards.

Students will attend the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Maryland. **Phase I** consists of 12 months didactic instruction on campus. Upon completion of these didactic studies, the officers will complete **Phase II**, 18 months of clinical training, at the Alaska Native Medical Center (ANMC) in Anchorage, Alaska. This training will also include two clinical enrichment rotations: Joint Base Elmendorf/Fort Richardson Hospital in Anchorage for advanced regional and obstetrical anesthesia, and Forest Grove Hospital in Hattiesburg, Mississippi for cardiovascular anesthesia.

This solicitation for applications for the 2011 training cycle begins immediately and ceases at 5 pm EST January 31st, 2011. Minimum criteria for applying are listed below. Specific information and points of contact regarding 1) IHS acceptance, 2) USUHS admission, and 3) Phase II clinical training follow.

**Minimum Candidate Criteria:**

- USPHS CO with two years (may be waived) as Registered Nurse (RN) serving in any IHS, tribal, or urban facility
  - Recommended for promotion on last two Commissioned Officer Effectiveness Reports (COER)
  - At least an overall rating of “D” on last two COER
  - Basic Readiness Qualified
- Current, unrestricted RN license in any of the 50 United States or territories
- At least two years nursing experience in the acute care setting with advanced physiological monitoring (i.e., Intensive Care, Emergency Department, Post Anesthesia Care Unit, or Operating Room).
- Must meet USUHS extended application deadline of 31 January 2011 and minimum application requirements – see (2) below.
- Must meet IHS DNS LLT application deadline of 5pm EST 31 January 2011.

**Points of Contact:**

IHS: Questions regarding the qualifications for IHS Long-Term Training, including Commissioned Corps requirements and training agreements.

Sandra Haldane
Director of Nursing Services, Indian Health Services, Office OCPS
801 Thompson Ave, Suite 324
Rockville MD 20852
E-mail: Sandra.Haldane@ihs.gov
Telephone: (301) 443-1026

Upon completion of the LTT, these CRNAs will serve their payback obligation as a CRNA in an operating room (OR) at

- A tribal program that has left its tribal shares in the Headquarter’s Nurse Initiatives, NECI Section 118, COSTEP, and Continuing Education program budgets (Budget Lines 110, 111, 112), or
- A tribal program who chooses to buy back the cost of the individual’s training at full cost recovery, or
- In an IHS facility.

In addition to providing anesthesia services to patients
undergoing surgical procedures, CRNA obligees will act as a resource for staff development, policy formulation, and consultation in the provision of anesthesia services to their local and Area facilities as well as nationally as requested.

Placement of nurses into this training and after training will be in accordance with the Indian Preference Act (Title 25 U.S. Code Section 472 and 473) in which absolute preference will be given to qualified Indian candidates.

- Selection for this Long Term Training position is subject to acceptance into USUHS Graduate School of Nursing (GSN) Nurse Anesthesia Program that leads to certification eligibility
- Sponsorship of this training is subject to the availability of Fiscal Year 2011 funds.

**Application Materials Required for the IHS Division of Nursing**

1. Copy of USUHS GSN application.
2. Application must be made in accordance to CCPM: [http://scp.psc.gov/PDF_docs/2521.pdf](http://scp.psc.gov/PDF_docs/2521.pdf)
   ALL LTT Required Forms as found at Official Forms Website: [http://scp.psc.gov/cc_forms.asp](http://scp.psc.gov/cc_forms.asp)
3. IHS Division of Nursing Long Term Training Agreement
4. If claiming Indian Preference, BIA Form 4432
5. Child Care Form
6. Three letters of recommendation
7. Narrative statement (as required by USUHS GSN) which is reflective of officers professional and personal strengths, as well as motivation for graduate study as an advanced practice nurse providing care to American Indians/Alaska Natives.
8. Copy of last two COERs
9. Documentation from undergraduate nursing school indicating cumulative grade point average upon graduation
10. Documentation from graduate studies (if applicable) indicating cumulative grade point average
11. Copy of current, active, unrestricted registered nurse license
12. CV or resume

**USUHS:** Questions regarding admissions to the USUHS, Graduate School of Nursing, Nurse Anesthesia Program.

CDR Bob Hawkins, DNP, MS, MBA, CRNA
Program Director
Nurse Anesthesia Program
Graduate School of Nursing
Uniformed Services University
Email: Robert.Hawkins@usuhs.mil
Office: (301) 295-1199

**A Glimpse of USUHS (www.usuhs.mil)**

USUHS is the Nation's federal health sciences university and is committed to excellence in military medicine and public health during peace and war. They provide the nation with health professionals dedicated to career service in the Department of Defense and the United States Public Health Service and with scientists who serve the common good. They serve the uniformed services and the nation as an outstanding academic health sciences center with a worldwide perspective for education, research, service, and consultation; they are unique in relating these activities to military medicine, disaster medicine, and military medical readiness.

**A Glimpse of USUHS Graduate School of Nursing (www.usuhs.mil/gsn)**

Members of Congress founded the USU Graduate School of Nursing (GSN) in 1993. The programs are designed to prepare advanced practice nurses and PhDs for the unique challenges of military and public health medicine. GSN students explore the fields of nursing through a signature blend of science, research, and field training. The lessons learned on the USU campus and beyond the traditional classroom prepare GSN graduates to take on a diverse range of challenges and succeed in any environment. This mission makes USU graduates uniquely prepared to shape the future of health care within the federal health care system.

**Attributes indicating student success in a Masters level curriculum:** *(these attributes should be addressed in the required letters of reference)*

- Evidence of critical thinking skills
- Evidence of the ability to communicate effectively
- Evidence of the ability to be academically successful
- Evidence of character, honesty, and integrity in their profession
- Evidence of initiative, self-direction, and motivation

**Admission Criteria (www.usuhs.mil/gsn)**

- Applicants must be commissioned officers or service sponsored civilians in the US Army, Air Force, Navy or Public Health Service with a Bachelor of Science in Nursing. Acceptance is contingent upon approval of the sponsoring agency or service.
- Organic chemistry or biochemistry (preferably completed within five years of application)
- Target GPA and science GPA of 3.0 or better on 4.0 scale
- GRE scores (within five years): verbal 500, quantitative 500
- A letter of reference from the following persons:
  - an immediate supervisor
  - a additional person in your chain of command
  - optional source who is able to assess your
potential for success
• A personal statement including a history of professional experiences and future goals
• Original transcripts from all post-secondary education institutions attended
• Current Registered Nursing license in any of the 50 states and territories
• Current curriculum vitae
• Current BLS, ACLS, and any other professional certifications (i.e., CCRN, CNOR, PALS, etc.)
• It is recommended all applicants have at least two years nursing experience in the acute care setting with advanced physiological monitoring (i.e., Intensive Care, Emergency Department, Post Anesthesia Care Unit, and Operating Room).

Nurse Anesthesia Curriculum

Philosophy. The Nurse Anesthesia Program is dedicated to the graduate education of nurse anesthetists in the uniformed services. The uniformed services require that graduates independently provide quality anesthesia care in diverse settings throughout the world. The rigorous curriculum is designed to integrate scientific principles with anesthesia theory and practice, stressing unique aspects of the federal health care system. An emphasis is placed on statistics and research methodology enabling the student to critically analyze anesthesia literature and evaluate potential problems in anesthesia. The primary goal of the program is to produce safe, competent, adaptable anesthetists who can meet the challenges of today’s federal health care needs.

Design. The Nurse Anesthetist Program is a 30-month, front-loaded, regionalized course of study that consists of two phases. The Phase I didactic component, conducted on the campus of USU, provides the student with the academic and professional education necessary for entrance into the clinical arena. All content areas identified in the Standards and Guidelines for Accreditation of Nurse Anesthesia Educational Programs are introduced during Phase I. The 18-month Phase II clinical component focuses on the application of science and research to clinical anesthesia. Students are assigned to a federal medical treatment facility as their principal clinical training site. Individual clinical training sites may be eliminated or added as needed to assure quality clinical education. The clinical phase is designed to guide graduate students toward the goal of functional autonomy by demanding that students care for patients in a manner reflecting comprehensive integration of scientific principle and anesthesia theory, as well as maximal independent decision-making appropriate to each student’s level of experience.

Basic & Clinical Sciences: 21 Credit Hours
  Applied Anatomy/Cell Biology
  Applied Neuroscience
  Advanced Health Assessment

Applied Pathophysiology
Medical Pharmacology
Applied Biochemistry
Clinical Pharmacology for Nurse Anesthetists

Leadership: 5 Credit Hours
  Leadership Role
  Leadership/Management in a Global Environment
  Health Policy/Ethics

Research & Statistics: 11 Credit Hours
  Theoretical Foundations
  Statistical Measures/Analytic Methods
  Applied Scholarly Inquiry I, II
  Capstone Clinical Investigative Project I, II

Nurse Anesthesia: 44 Credit Hours
  Basic Principles of Anesthesia
  Advanced Principles of Anesthesia
  Clinical Practicum I, II, III, IV & V

Total Credit Hours: 81

Phase II Clinical Training: Questions regarding clinical anesthesia training.

Captain Buck Frost, MHS, CRNA
Clinical Site Director
Nurse Anesthesia Program
Graduate School of Nursing
USUHS
Alaska Native Medical Center
E-mail: bmfrost@anthc.org
Office: (907) 729-2200
Cell: (907) 382-8564

Commander Wendy Monrad, MNS, CRNA
Assistant Clinical Site Director
Nurse Anesthesia Program
Graduate School of Nursing
USUHS
Alaska Native Medical Center
E-mail: wmonrad@anthc.org
Office: (907) 729-2200
Rehabilitation Medicine and Urinary Incontinence Therapy

Tami Bonebrake, DPT, Physical Therapy Department, Whiteriver Hospital, Whiteriver, Arizona

Urinary incontinence is defined by the International Continence Society (ICS) as “an involuntary loss of urine that is objectively demonstrable and a social or hygienic problem.” Incontinence is a common problem, particularly among females. It has been reported that the prevalence of urinary incontinence among older community dwelling females is 17% to 55%, and 12% to 42% in middle-aged and younger women, while rates in men are approximately one-third of those in women until age 80, when rates converge at around 42%. According to a Primary Care Update for Ob/Gyn article by Newman, it was found that a woman will wait on average seven years before seeking help, while males generally seek help within one week of an episode of incontinence. It has also been reported that one in three women will leak urine following childbirth.

The literature supports conservative treatment of the pelvic floor as a first line therapy for incontinence in cases of mild to moderate prolapse and with persistent postpartum urinary incontinence. A recent Cochrane review has suggested that specific populations of women, such as primiparous women, those who have bladder neck hypermobility in early pregnancy, individuals who deliver a large baby, or women who have a forceps delivery may also benefit from pelvic floor muscle training (PFMT). According to a 2002 study in the Journal of Wound, Ostomy and Continence Nursing, Miller et al found that verbal instruction alone was not adequate for teaching patients in performing pelvic floor muscle exercises, and that clinician-supervised exercises are more effective in treating incontinence. Specially-trained women’s health physical therapists have the skills to treat the pelvic floor complex. These therapists provide education about pelvic floor function, exercise, and awareness of the pelvic floor musculature. This has been shown to significantly decrease and/or cure episodes of leakage.

The three types of urinary incontinence that are treated with pelvic floor rehabilitation are stress urinary incontinence, urge urinary incontinence, and mixed stress and urge urinary incontinence. Success with PFMT is dependent on choosing patients appropriate for conservative treatment. It has been recommended that four criteria should be met prior to beginning a program of PFMT: 1) adequate alignment of pelvic organs, 2) intact structural support, 3) functional muscle activation ability, and 4) absence of reversible causes for incontinence. Conservative treatment options generally focus on exercise of the pelvic floor, bladder training, and use of exercise-assisted tools such as biofeedback and electrical stimulation. Behavioral methods used in conjunction with the above-mentioned include the use of fluid schedules, avoidance of dietary irritants, and bowel programs.


References


Funding to Build Research Skills and Capacity, and Conduct Research

The Institute of Translational Health Sciences (ITHS) is pleased to announce the availability of small research activity grants for community, tribal, and clinical practice members only, who are within the five-state WWAMI region (Washington, Wyoming, Alaska, Montana, and Idaho). The applicants should be interested in developing research capacity and in working with academic/university-based researchers in clinical or translational health science. Members of the academic research community are not eligible to apply.

The goal of this funding program is to enhance two-way working relationships between communities, practices, and academic researchers in participatory research, which means community, tribal, and practice members are directly involved in research processes. Grants are designed to help communities, tribes, and practices:

- gain research skills and boost research capacity
- conduct research or quality improvement work
- establish relationships with academic/university-based research partners

Funds can be used for small pilot research, quality improvement projects, or non-research activities that develop research capacity. All proposed research must be participatory, which means involving the community, tribe, and practice members in the health research processes. Typical awards will range from less than $1,000 to a maximum of $10,000. The project or activity should be no more than one year in length.

Application and Schedule

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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>By Dec. 6, 2010</td>
<td>To be considered for this award, it is required that you send an e-mail indicating your intent to apply for this funding opportunity and a brief description of your proposed project or activity (no longer than a half of a page) to Leah Tuzzio at <a href="mailto:tuzzio.l@ghc.org">tuzzio.l@ghc.org</a> or call (206) 287-2109; or Abigail Echo-Hawk, Tribal Liaison, at <a href="mailto:hawkd3@uw.edu">hawkd3@uw.edu</a> or call (206) 616-5957.</td>
</tr>
<tr>
<td>By January 14, 2011</td>
<td>Fill out the application and e-mail it to <a href="mailto:ithsapps@u.washington.edu">ithsapps@u.washington.edu</a></td>
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<tr>
<td>Week of March 11, 2011</td>
<td>Notification of award</td>
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University of Massachusetts Amherst
IHS Child Health Notes

Quote of the month
“Major life events, good or bad, seldom transform a person; rather they bring one’s underlying character into greater relief as a strong gust of wind reveals the true shape of a tree when it blows off all its leaves”
Irene Nemirovsky

Articles of Interest
Respiratory morbidity in late preterm births
http://jama.ama-assn.org/cgi/content/abstract/304/4/419

Long-term cognition, achievement, socioemotional, and behavioral development of healthy late-preterm infants.
http://archpedi.ama-assn.org/cgi/content/abstract/164/6/525

It is known that the rate of late-preterm births (infants born at 34-36 weeks gestation) has risen in the past decade and is now 8.8% of all US births. It is also known that late-preterm infants have significant acute morbidity and mortality. Thirty-four-week gestation infants are up to 25 times more likely to die in the first week of life. Late-preterm infants also have higher rates of respiratory failure, sepsis, intraventricular hemorrhage, apnea, hypoglycemia, and feeding difficulties.

The first study on respiratory morbidity in late-preterm infants confirms these disparities. The authors looked at a large data set of US births. They found that 36% of late-preterm infants were admitted to a NICU versus 7% of term births. The rates of respiratory distress syndrome were 10% in preterm infants at 34 weeks versus 0.3% for infants at 38 weeks. Similarly transient tachypnea of the newborn occurred in 6.4% of preterm infants at 34 weeks and 0.4% of infants born at 38 weeks. Even at 37 weeks gestation, the risk of RDS or TTN was three times that of infants at 38 weeks. The risk of respiratory illness at 38 weeks was no greater than that of infants born at 39 or 40 weeks.

In the second study on development outcomes, the authors looked at 1298 healthy late preterm infants followed until 15 years using 11 standard outcomes measures of cognition, achievement, social skills, and behavioral problems. Infants were excluded if they had major malformations or chromosomal abnormalities or required hospitalization for more than one week. In every field measured there was no significant difference in outcome. This study suggests that healthy late pre-term infants have no long-term burdens regarding cognition and achievement throughout childhood.

Editorial Comment
It’s good and bad news. The bad news is that being born < 38 weeks carries a significant increased risk of short term pulmonary morbidity. The goal should be to avoid delivery at < 38 weeks if at all possible. On the other hand, preterm infants who are otherwise healthy appear to do well in the long run. Parents of late-preterm infants can be reassured that their children will do well throughout childhood.

Infectious Disease Updates
Rosalyn Singelton, MD, MPH
Maternal Influenza Vaccination and Effect on Influenza Virus Infection in Young Infant
http://archpedi.ama-assn.org/cgi/content/short/archpediatrics.2010.192

Objective: To assess the effect of seasonal influenza vaccination during pregnancy on laboratory-confirmed influenza in infants to six months of age.

Design: Nonrandomized, prospective, observational cohort study of 1169 mother-infant pairs on the Navajo and White Mountain Apache Reservations.

Main Outcome Measures: In infants, laboratory-confirmed influenza, influenza like illness (ILI), ILI hospitalization, and influenza hemagglutinin inhibition antibody titers.

Results: A total of 1160 mother-infant pairs had serum collected and were included in the analysis. Among infants, 193 (17%) had an ILI hospitalization, 412 (36%) had only an ILI outpatient visit, and 555 (48%) had no ILI episodes. The ILI incidence rate was 7.2 and 6.7 per 1000 person-days for infants born to unvaccinated and vaccinated women, respectively. There was a 41% reduction in the risk of laboratory-confirmed influenza virus infection (relative risk, 0.59; 95% confidence interval, 0.37-0.93) and a 39% reduction in the risk of ILI hospitalization (relative risk, 0.61; 95% confidence interval, 0.45-0.84) for infants born to influenza-vaccinated women compared with infants born to unvaccinated mothers.

Conclusions: Maternal influenza vaccination was significantly associated with reduced risk of influenza virus infection and hospitalization for an ILI up to 6 months of age and increased influenza antibody titers in infants through 2 to

November 2010 THE IHS PROVIDER 264
3 months of age.

**Editorial Comment**

Infants suffer a high burden of influenza-associated illness and hospitalization. Unfortunately, influenza vaccine and antivirals are not licensed for infants less than six months of age. In the accompanying Archives article, Eick and colleagues give results from a non-randomized controlled observational study to evaluate the effect of influenza vaccination during pregnancy on influenza illness in infants compared with that of infants born to unvaccinated women. Authors found a 41% reduction in laboratory-confirmed influenza virus infection for infants of influenza vaccinated mothers compared with non-vaccinated mothers, and a significant association between increasing cord blood titers and decreasing risk of influenza infection. The mechanisms of reduced influenza infection risk in infants of vaccinated moms could include both decreased influenza exposure from the mom and increased transplacentally acquired antibody titers in infants.

**Recent literature on American Indian/Alaska Native Health**

Jeff Powell, MD, MPH


This month’s article focuses on a hot topic throughout many parts of the country – the psychological impacts of casino gaming. The article, by Costello, Erkanli, Copeland, et al, and published in the May 19, 2010 issue of *JAMA*, describes findings from The Great Smoky Mountains Study. The authors specifically address the impacts of family income supplements (started as profit sharing from the opening of a casino gaming business) on the incidence of substance abuse disorders and other psychiatric disorders amongst young adults. Also included in the references is a comment published *JAMA* by Ann Bullock, MD and Vickie Bradley, sharing perspectives on study findings from experience with the Eastern Band of Cherokee Indians (EBCI). While this comment raises excellent questions about the strength of the conclusions drawn from this study, what I find to be exciting from this major publication are the following:

1. There is positive change happening amongst the EBCI community, and this change is demonstrated in improved outcomes within specific age cohorts participating in the study.
2. This study provides detailed information and analysis that examines the social and health outcomes of casino gaming implementation in one specific Native American community. This is information that, while unique to the experience of the EBCI in western North Carolina, may be of keen interest to other American Indian and Alaska Native communities considering the implementation of casino gaming, including how to utilize funds generated by casinos.
3. Finally, this article describes positive outcomes among EBCI youth and young adults compared with rigorously identified and matched Non-Hispanic whites. EBCI youth and young adults were found to have comparable if not better social and psychological outcomes. Particularly when it comes to substance use and abuse, the all too common narrative (whether correct or not) in the lay press is that AI/AN youth and young adults suffer from rampant substance abuse and social problems. This evaluation shows that, for EBCI youth and young adults, this narrative is inappropriate and inaccurate.

The Great Smoky Mountain Study is a large, rigorous, environmental study implemented in eleven western North Carolina counties. The Eastern Band of Cherokee Indian (EBCI) reservation is located within this region. The study design specifically over-sampled Native American families and youth. For this analysis, all EBCI families (children of tribal members) were invited to participate (although there is not a description of whether participants lived on-reservation or in other study regions). A comparison group was randomly selected and matched with the EBCI participants. In all, 317 Native American youth and 868 Non-Hispanic White youth completed the entire study process. Participating families and youth were assessed in-person with detailed interviews implementing structured and comprehensive assessment tools designed to detect psychiatric and substance abuse disorders. Initial assessments took place yearly between 1993 and 1996, and follow up assessments occurred at specific ages through age 21. Participants completed on average seven in-person detailed interviews, concluding in 2006.

The authors refer to this analysis as a “Quasi Experimental” design, which examines the impacts of a natural experiment: the impacts on youth of the 1996 casino opening on the Cherokee reservation. The authors were hoping to assess the impacts of family income disbursements provided to youth and families of the EBCI tribe. While EBCI tribal members received yearly, large, income disbursements, the comparison group of Non-EBCI youth living geographically adjacent to the Cherokee reservation received no income disbursements. The hypothesis being tested was that increased
amount and duration of income assistance would result in fewer young adults with psychiatric disorders and with substance abuse disorders. The authors have previously reported that EBCI youth had improved outcomes at younger ages. This article specifically analyzes findings between ages 19 and 21 years.

The study findings are as follows: EBCI youth who were in the youngest age cohort at the time of casino opening (12 years old in 1996) had the most improved outcomes at ages 19 - 21 years. This was true for finding any psychiatric disorder, any substance abuse disorder, and alcohol abuse disorders. Findings for cannabis abuse were less consistent. Over the same time, Non-Hispanic white youth did not show improved outcomes for the same disorders. The article offers detailed description of the many statistical analyses implemented to evaluate for non-confounded results. Simply looking at the youngest age cohort, however, offers a striking description of how well the EBCI youth were doing compared with Non-EBCI youth of the same ages (table one in Costello et al.). In sum, EBCI young adults were doing not just a little better with respect to the above outcomes, they were doing much better (such as only 14.4% of EBCI young adults with alcohol abuse or dependence compared with 24.3% of non-EBCI young adults).

So this study shows clearly that young EBCI adults, who received significant income supplementation from gaming monies between the years 1996 and 2006 had improved outcomes. Determining the cause of this improvement is a fascinating proposition. In the study conclusions, Costello et al describe how the youngest age cohort had the longest exposure to income supplements (and also larger amounts of income disbursements), whereas the older cohorts had less exposure and the non-EBCI comparisons had no exposure. This is described as offering credence to family income supplementation as effective social policy.

While this may be true, determining causation is difficult, especially given the potential confounders described by the authors in the study limitations. By definition and almost design, race is stated in the study limitations as being a confounder. It would seem that the importance of this cannot be minimized – with changes over time related to historical trauma and cultural identity, Native American race is an important confounder indeed. It would be interesting and important to reflect on the same outcomes in other AI/AN communities over time. What were the trends within these specific outcomes in other AI/AN communities between 1996 and 2006?

The commentary by Bullock and Bradley provides further context. They point out that family income supplements were not the only changes occurring in the EBCI community after the 1996 casino opening. I would propose that beyond race, EBCI “community” membership is another potential confounder. Many good things may have been happening in the EBCI community around the time of the 1996 casino opening. Bullock and Bradley point out that half of casino profits were provided to families as income supplements, while the other half were invested in community programming – social services, housing, education, health care, and more. In reply, the study authors state that the older two age cohorts did not show improved EBCI outcomes compared with non-EBCI comparisons. They would expect to show improvements in the older age cohorts (who were 14 and 16 years old in 1996) if these community investments were having an effect. However, just as income supplementation is thought to have the largest effect if it starts earlier in a young person’s life, wouldn’t community changes also affect the youngest age cohort the most? If anything, community change is slower and more difficult to implement than money disbursements. Is it possible that this study is showing the positive impacts of community change on study participants just as much as the impacts of improved household income?

Perhaps the best outcome of this study is the discussion that it is sure to generate. Ultimately, discussing why it is that EBCI young adults have done so much better since 1996 is a very worthwhile conversation.
MEETINGS OF INTEREST

Advancements in Diabetes Seminars
Monthly; WebEx

Join us monthly for a series of one-hour WebEx seminars for health care program professionals who work with patients who have diabetes or are at risk for diabetes. Presented by experts in the field, these seminars will discuss what’s new, update your knowledge and skills, and describe practical tools you can use to improve the care for people with diabetes. No registration is necessary. The accredited sponsors are the IHS Clinical Support Center and IHS Nutrition and Dietetics Training Program.

For information on upcoming seminars and/or previous seminars, including the recordings and handouts, click on this link and see Diabetes Seminar Resources: http://www.diabetes.ihs.gov/index.cfm?module=trainingSeminars

Available EHR Courses

EHR is the Indian Health Service's Electronic Health Record software that is based on the Resource and Patient Management System (RPMS) clinical information system. For more information about any of these courses described below, please visit the EHR website at http://www.ihs.gov/CIO/EHR/index.cfm?module=rpms_ehr_training. To see registration information for any of these courses, go to http://www.ihs.gov/Cio/RPMS/index.cfm?module=Training&option=index.
POSITION VACANCIES

Editor’s note: As a service to our readers, THE IHS PROVIDER will publish notices of clinical positions available. Indian health program employers should send brief announcements as attachments by e-mail to john.saari@ihs.gov. Please include an e-mail address in the item so that there is a contact for the announcement. If there is more than one position, please combine them into one announcement per location. Submissions will be run for four months and then will be dropped, without notification, but may be renewed as many times as necessary. Tribal organizations that have taken their tribal “shares” of the CSC budget will need to reimburse CSC for the expense of this service ($100 for four months). The Indian Health Service assumes no responsibility for the accuracy of the information in such announcements.

Medical Director

Emergency Room Physicians

Emergency Medicine PA-Cs/Nurse Practitioners

Family Practice PA-Cs/Family Nurse Practitioners

OB/GYN Physician

Nurse Mid-Wives

Family Practice Physicians

Rosebud Comprehensive Health Care Facility; Rosebud, South Dakota

The Rosebud Comprehensive Health Care Facility in Rosebud, South Dakota is seeking board eligible/board certified physicians and mid-levels with at least 2 - 3 years post-residency experience. We are also in need of ER PA-Cs, family practice PA-Cs, and family nurse practitioners. Rosebud is located in rural south central South Dakota, west of the Missouri River on the Rosebud Indian Reservation and is approximately 30 miles from the Nebraska border. We are a 35-bed facility that has a 24-hour emergency department, and a busy clinic that offers the following services: family practice, internal medicine, ob/gyn, pediatrics, general surgery, optometry, dentistry, physical therapy, dietary counseling, and behavioral health. Our staff is devoted to providing quality patient care, and we have several medical staff members who have been employed here ten or more years. The beautiful Black Hills, Badlands, Custer State Park, Mount Rushmore, and Crazy Horse Memorial are just 2 - 3 hours away. South Dakota is an outdoorsman’s paradise with plenty of sites for skiing, hiking, hunting, fishing, boating, and horseback riding. Steeped in western folklore, Lakota cultural history, and the lands of such famous movies as “Dances with Wolves” and “Into the West,” there is plenty for the history buff to explore. If you are interested in applying for a position, please contact Kevin Stiffarm, Chief Executive Officer, at (605) 747-3111, (605) 517-1283; or e-mail him at kevin.stiffarm@ihs.gov.

(11/10)

Family Practice Physician

Warm Springs Health and Wellness Center; Warm Springs, Oregon

The Warm Springs Health and Wellness Center has an opening for a board certified/eligible family physician. Located in the high desert of central Oregon, we have a clinic that we are very proud of and a local community that has much to offer in recreational opportunities and livability. Our facility has been known for innovation and providing high quality care and has received numerous awards over the past ten years. We have positions for five family physicians, one created by a physician who recently retired after 27 years of service. Our remaining four doctors have a combined 62 years of experience in Warm Springs. This makes us one of the most stable physician staffs in IHS. Our clinic primarily serves the Confederated Tribes of Warm Springs. We have a moderately busy outpatient practice with our doctors seeing about 15 - 18 patients per day under an open access appointment system. We were a pilot site for the IHS Innovations in Planned Care (IPC) project and continue to make advances in how we provide care to our patients. We fully utilize the IHS-Electronic Health Record, having been an alpha test site for the program when it was created. We provide hospital care, including obstetrics and a small nursing home practice, at Mountain View Hospital, a community hospital in Madras, Oregon. Our call averages 1 in 5 when fully staffed. For more information, please call our Clinical Director, Miles Rudd, MD, at (541) 553-1196, ext 4626, or e-mail stephen.rudd@ihs.gov. (10/10)

Dentist

Family Practice Physician

Consolidated Tribal Health Project; Redwood Valley, California

The Consolidated Tribal Health Project in Redwood Valley, California is recruiting for a dentist and a family practice physician. These positions are full-time with benefits; salary DOE. All applicants will be considered; Native American preference applies. Visit www.cthp.org for an application and job description. Send application and resume to HR Department by fax at (707) 485-7837. ADA/EEO. (10/10)

Family Practice Physician

Menominee Tribal Clinic; Keshena, Wisconsin

Join seven experienced primary care physicians in beautiful north central Wisconsin 45 miles from Green Bay. We provide comprehensive primary care for Wisconsin’s longest residing residents at a large, established clinic on the banks of the Wolf River. Practice in an efficient setting with
committed colleagues, your own nurse, and a robust electronic health record. Inpatient and obstetrical care are provided at a 25-bed community hospital nine miles away, where family doctors do C-sections, colonoscopies, and EGDs. Live in a safe town of 8000 with great schools and endless recreational opportunities. Competitive compensation available, along with loan repayment (NHSC and State of Wisconsin). Contact Kevin Culhane, MD at (715) 799-5786, or e-mail at kevinc@mtclinic.net. (10/10)

Community Dietitian

Southeast Alaska Regional Health Consortium (SEARHC); Juneau, Alaska

SEARHC invites registered dietitians to apply for a community dietitian opening on the SEARHC Health Promotion Team. The baseline qualifications are a BS in community nutrition/dietetics or a nutrition-related field. Two years clinical nutrition and/or community nutrition work experience are required, with specific experience in management and prevention of diabetes, heart disease, and other chronic diseases. Must be a registered dietitian and eligible for dietetic licensure in the State of Alaska.

The dietitian will assess, plan, implement, and evaluate community nutrition programming focused on diabetes prevention. Additionally, the community dietitian offers medical nutrition therapy to clients living with diabetes and pre-diabetes on an on-site, outpatient basis as well as using distance delivery via Polycom. These services are provided to individuals, small groups, and communities in Juneau and the northern SEARHC region. SEARHC is a non-profit tribal health consortium of 18 Native communities, which serves the health interests of the Tlingit, Haida, Tsimshian, and other Native people of southeast Alaska. Residents of southeast Alaska towns share a strong sense of community. Residents take full advantage of the excellent opportunities for fishing, boating, skiing, hiking, and other outdoor activities. Applications are available on-line at www.searhc.org, or please contact Human Resources at (907) 463-6693. (10/10)

Family Practice Physician

Western Oregon Service Unit (Chemawa); Salem, Oregon.

The Western Oregon Service Unit is a comprehensive ambulatory care facility located on the campus of the BIA’s Chemawa Indian Boarding School. Chemawa serves not only the 420 high school teens who come to the boarding school every fall, but urban and regional beneficiaries as well. Staffed with two family practice physicians and one family nurse practitioner, Chemawa is currently recruiting for a board certified/board eligible family medicine physician. If selected for the position, you would have a federal position, competitive salary, the absence of call, and have week-ends, holidays, and nights free to enjoy the urban lifestyle of Oregon’s state capitol, Salem. Salem has moderate weather and easy access to the Pacific Ocean, the Cascade Mountains, the high desert, Portland, and the renowned viticulture of the Willamette Valley.

For more information, contact CAPT Les Dye at leslie.dye@ihs.gov. (9/10)

Emergency Department Physician

Family or Pediatric Nurse Practitioner

Physician Assistant

Sells Service Unit; Sells, Arizona

The Sells Service Unit (SSU) in southern Arizona is recruiting for a board certified/board eligible physician (family practice, internal medicine, or emergency medicine) to join our experienced medical staff and work in our emergency department. We are also recruiting for a family/pediatric nurse practitioner or physician’s assistant for our school health program and a family nurse practitioner for the Sells Hospital outpatient department.

The SSU is the primary source of health care for approximately 24,000 people of the Tohono O’odam Nation. The service unit consists of a Joint Commission accredited 34-bed hospital in Sells, Arizona and three health centers: San Xavier Health Center, located in Tucson, the Santa Rosa Health Center, located in Santa Rosa, and the San Simon Health Center located in San Simon, with a combined caseload of approximately 100,000 outpatient visits annually. Clinical services include family medicine, pediatrics, internal medicine, prenatal and women’s health care, dental, optometry, ophthalmology, podiatry, physical therapy, nutrition and dietetics, social work services, and diabetes self-management education.

Sixty miles east of the Sells Hospital by paved highway lies Tucson, Arizona’s second largest metropolitan area, and home to nearly 750,000. Tucson, or “The Old Pueblo,” is one of the oldest continuously inhabited sites in North America, steeped in a rich heritage of Indian and Spanish influence. It affords all of southern Arizona’s limitless entertainment, recreation, shopping, and cultural opportunities. The area is a favored tourist and retirement center, boasting sunbelt attributes and low humidity, with effortless access to Old Mexico, pine forests, snow sports, and endless sightseeing opportunities, all within a setting of natural splendor.

We offer competitive salary, relocation/recruitment/retention allowance, federal employment benefits package, CME leave and allowance, and loan repayment. For more information, please contact Peter Ziegler, MD, SSU Clinical Director at (520) 383-7211 or by e-mail at Peter.Ziegler@ihs.gov. (8/10)

Internal Medicine/Family Practice Physician

White Earth IHS Health Center; Ogema, Minnesota

We are recruiting for two positions for our beautiful White Earth Health Center. We are located in northeast Minnesota. We are a freestanding outpatient-only facility with no hospital or ER responsibilities. We are open Monday through Friday.
8:00 am - 4:30 pm. In addition to our main clinic in Ogema, we also have two satellite clinics located in two other reservation communities. We are very honored and humbled to serve primarily the White Earth Band of the Anishinaabe People. Our clinic is looking for energetic, creative physicians who have a passion for delivering excellent primary care. Our schedule also gives our providers the opportunity to live a full life outside of the clinic with no evening, weekend, or holiday responsibilities. The White Earth Clinic is a Federal IHS facility, and we accept either a Minnesota State license or out of state (unrestricted license to practice medicine).

Ogema is approximately 220 miles northwest of Minneapolis and 60 miles east of Fargo, North Dakota. There are literally hundreds of lakes and resorts located around our area. Detroit Lakes, Minnesota, a city of 8,000, is located 20 miles from the clinic. Approximately half of our employees reside in Detroit Lakes, with the other half living in small towns and on lakes in the area around the clinic. Fishing, hunting, cross country and downhill skiing, hiking, boating, swimming, and biking are just a few of the activities that are enjoyed by the people who live in our area. Detroit Lakes has recently been named one of the top ten lakes for boating in the nation by a leading outdoor magazine.

We offer a very competitive salary with loan repayment and bonuses definitely available for negotiation. We are excited and willing to offer a very attractive package to the physician who would fit into our vision of world class health care for the native people.

For more information please feel free to contact Zane Rising Sun, MD, Clinical Director, or Bryce Redgrave, CEO, at (218) 983-4300. (8/10)

Family Physician
SouthEast Alaska Regional Health Consortium; Juneau, Alaska

The SEARHC Ethel Lund Medical Center in Juneau, Alaska is searching for a full-time family physician with obstetrics to join a great medical staff of 14 providers (ten physicians and four midlevels) at a unique clinic and hospital setting. Have the best of both worlds by joining our practice where we share hospitalist duties one week every 6 - 8 weeks, and spend our remaining time in an outpatient clinic with great staff and excellent quality of life. We have the opportunity to practice full spectrum family medicine.

Work in Southeast Alaska with access to amazing winter and summer recreational activities. Live in the state capital with access to theater, concerts, annual musical festivals and quick travel to other communities by ferry or plane. Consider joining a well rounded, collegial medical staff at a beautiful clinic with generous benefits. For more information, contact Dr. Cate Buley, Assistant Medical Director, Ethel Lund Medical Center, Juneau, Alaska; telephone (907) 364-4485; e-mail cbuley@searhc.org; or go to www.searhc.org to learn more. (8/10)
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**THE IHS PRIMARY CARE PROVIDER**

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

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