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Adverse Drug Reactions: Simple Steps to Ensure Meaningful and Useful Reporting

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Background

The World Health Organization defines an adverse drug reaction (ADR) as a "response to a drug which is noxious and unintended and which occurs at doses normally used in man for prophylaxis, diagnosis, or therapy of disease, or for the modification of physiologic function."[1] More clearly, ADRs include allergic reactions and expected symptoms often described as "side effects" while excluding problems that result from prescribing/administration errors and intentional/accidental overdose. Allergic reaction and the development of side effects are unpredictable and unpreventable when they occur as a result of initial exposure to a drug. However, subsequent exposures and repeat ADRs are preventable. In this case, the repeat ADR becomes a medication error (ME). ADRs and MEs that cause a patient harm are considered adverse drug events (ADE). This distinction can often be important, but not particularly for the context of this article. All of the above will be referred to as ADRs throughout the following text with distinction made between non-preventable (or initial) and preventable (or repeat) where necessary.

ADRs are obviously harmful to our patients, but do the negative impacts extend further? Anecdotally, ADRs result in increased physical and financial demand on the health care system due to an increase in the length and cost of intervention necessary to properly respond to ADR-related symptoms and damage. Unfortunately, little US-based research has been done in this area, resulting in a scarcity of domestic statistics for ADR-related interventions, admissions, and cost analysis. In 2001, the Agency for Healthcare Research and Quality (AHRQ) published research that looked back at four ADE studies conducted in the mid-1990s.[2] These studies revealed that between four and thirteen percent of ADEs were related to patients who received drugs for which they had known allergies, i.e., repeat ADRs. A more recent ambulatory care-based study utilized a large, administrative database to calculate a 0.5% annual ADR prevalence rate among patients.[3] However, the authors admitted this was likely an underestimate and does little to reflect the impact of ADRs on the system as a whole.

Fortunately, researchers in other industrialized nations have visited the topic of ADR impact. Reviewing reports from

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these countries provides comparisons within the context of similar socioeconomic conditions as the US, even though differences in health care delivery may exist. A recent study in the United Kingdom (UK) used a nationwide, Department of Health database to identify ADR-associated hospital admissions over the past decade.[4] These represented nearly 1% of total hospital admissions over the period. In 2004, Pirmohamed et al projected that approximately 72% of ADR-related admissions were associated with preventable ADRs and that the annual cost of all ADR-related hospital admissions to the UK's National Health Service was $847 million USD.[5] Considering that 2009 US health care expenditures were approximately $4 thousand USD more per capita than on counterparts in the UK, probable US expenditures on ADR-related interventions over the past decade, and now, reaches a staggering estimate.[6] Thus, the importance of repeat ADR prevention – aside from protecting our patients – becomes evident.

We have the tools to properly monitor for, document, assess, and prevent repeated ADRs. If used consistently and correctly by all qualified Indian Health Service (IHS) personnel, these resources have the potential to help us prevent significant strain on the health of our patients and our health care system. This article provides an overview of ADR monitoring technology available within the IHS and how it should be used to assist with maximum preventative efforts.

Tools of the Trade

Subject matter experts have recently spotlighted technology as the most useful tool in preventing ADR-related events. One recent article states in no uncertain terms that "the technology with perhaps the greatest potential to impact all stages of the medication use process is the integrated electronic medical record (EMR)."[7] Another echoes that implementation of electronic records in the outpatient and inpatient settings offers "the promise of better safety-based detection and monitoring systems that can detect ADRs earlier and prevent ADRs in the future."[8] In the IHS, this record is known as the Electronic Health Record (EHR). The EHR definitely offers the advantages of electronic records mentioned above, but it comes with similar vulnerabilities as well. Because EHR is used to perform and document multiple, complex functions by a large number of personnel, it is inherently a hotbed for errors if used incorrectly. However, use of the EHR in a "concerted, collaborative, and multidisciplinary effort" has the potential to assist the health care team and improve quality of care and patient safety, especially in the arena of repeat ADR prevention.[7]

The IHS EHR platform offers a relatively user friendly ADR documentation tool that interfaces and shares information with the underlying Resource and Patient Management System (RPMS) software. Recent updates installed with EHR Patch 8 include updated ADR information entry fields to collect more thorough and useful information than before. The section that follows highlights key points for proper use of the ADR documentation tool that will help to ensure increased and more complete ADR reporting that, coupled with increased health care team vigilance, will help to prevent repeat ADRs within IHS facilities.

Who, What, and When

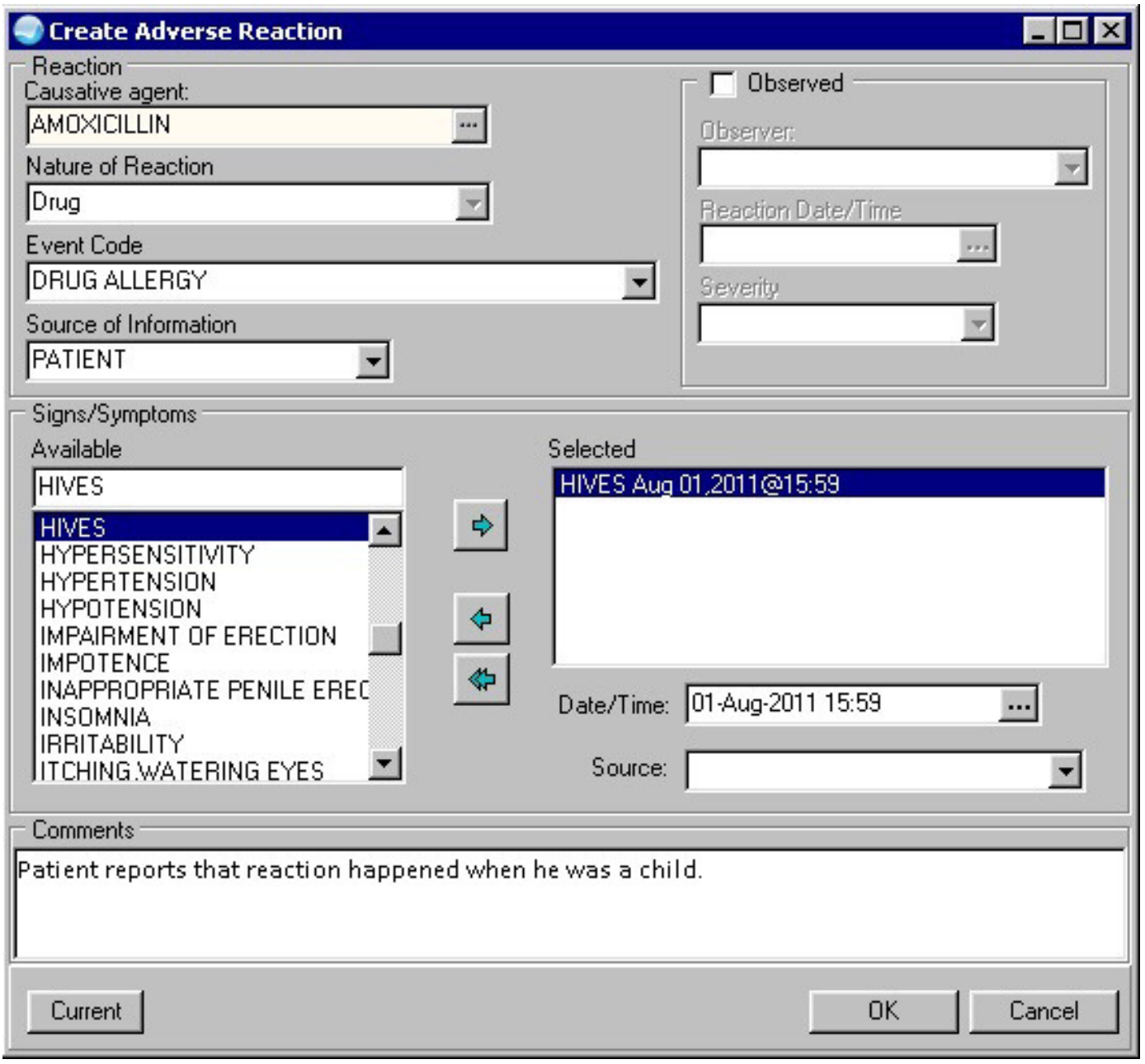
As stated above, a long chain of personnel access and use the EHR in the course of providing patient care. This includes clerks and screening nurses at the beginning of a visit or admission all the way through medical billers and coders who access the record sometimes long after the patient has left the facility. This chain, like any, is only as strong as its weakest link. This is especially true when it comes to ADR capture and documentation. Accuracy is key and can be achieved if everyone qualified does everything necessary every time.

Everyone. Any individual involved in the patient care process with appropriate access to the EHR is responsible for collecting and entering ADR information. Whereas other processes may be subject to increased risk for error as more people become involved, ADR capture tends to be the opposite. The more individuals that interview the patient or review the record for ADR information, the more likely it is to be captured and properly documented. A review of recent ADR reporting studies revealed that the majority of ADRs are reported by pharmacists and nurses, with physicians reporting the fewest.[9] Medical billers and coders were negligibly mentioned. We must share the responsibility of ADR capture and prevention. Every nurse, physician, pharmacist, dietician, therapist, etc. who has contact with a patient must ask about current and historical food and drug allergies and document them appropriately to ensure future exposure is prevented. Medical coding personnel can contribute significantly to the effort during post-visit chart reviews by documenting ADR information they may encounter that has not been properly entered in the EHR ADR monitoring package. The more tightly we weave our metaphorical net, the less will fall through.

Everything.. As previously stated, EHR Patch 8 brought with it more detailed ADR information entry fields. It is imperative that complete information for each field be documented every time an ADR is logged or edited. This allows a site's ADR Tracking Package manager(s) to better assess, ensure the accuracy of, and collect trending data from each entry. It also makes it easier for downstream providers to make new therapy decisions by providing a clearer, more detailed picture of past ADRs. Figure 1 provides a screenshot of the EHR "Create Adverse Reaction" data entry window and better illustrates what information needs to be collected for each entry. Your site's ADR Package manager(s) can provide specific training on accessing this point in the data entry process, if necessary.

With few exceptions, every section of the Create Adverse Reaction data entry window must be completed. The top third of the window contains basic information about the ADR. The

Figure 1. Screenshot of the EHR ADR Information Entry Tool*



*Some users, based on their role, may be instructed to input ADR information through the RPMS software instead of the EHR tool. Your site's ADR Tracking manager can provide more specific information and training if necessary.

Causative Agent and Nature of Reaction fields will populate automatically once the causative agent is chosen at the beginning of the ADR entry process. The Event Code is then used to classify the ADR as an allergic, pharmacologic, or idiosyncratic reaction and must be entered manually. Once again, your ADR manager(s) can provide more detailed education about when each selection in this dropdown menu should be used, but the majority of entries will be either Drug Allergy or Drug Intolerance. Source of Information refers to the manner in which the ADR was originally reported. For instance, a historical reaction to penicillin may be reported by the patient, by a family member who is a better medical historian, or in the patient's records from another provider. Completion of this field is essential, as knowing the source of ADR information allows for better scrutiny of its accuracy. The remaining fields in the top portion of the window are the

Observed Reaction fields. These are completed only when the reaction is directly observed by the individual reporting the ADR (e.g., the physician who is present for anaphylaxis onset following a penicillin injection).

The second section of the information entry window is by far the most important. Here, signs and symptoms of the reaction must be logged. This information is vital because it allows future providers to better weigh the risks/benefits of a drug re-challenge, should one be needed, based on the symptoms caused by the agent at last exposure. Symptom information also allows ADR managers to further assess whether the ADR is correctly classified as a true allergy or pharmacologic intolerance. Symptoms must be chosen from the available list and loaded into the "Selected" field. Selections such as "other reaction" or "possible reaction" are available for uncommon symptoms that may not be present in the list. These must then be documented in the "Comments" field. Your ADR manager can also be contacted if the need for a specific symptom choice is great enough for it to be added to the list of available options. Either way, signs/symptoms must be added every time an ADR is documented. The final two fields, Date/Time and Source (of the symptom information), should be completed as instructed by your ADR manager.

The bottom portion of the information entry window contains a section for free text comments. Comments to better describe ADR symptoms are required when "other reaction" or "possible reaction" is chosen from the signs/symptoms list. Otherwise, comments are optional but highly useful in many cases. Comments should be used to provide ADR-related details, context, or clarifications. Individual sites may have different policies concerning other instances in which comments are mandatory and how the field is to be used.

Every Time. ADR interviews need to be conducted every time a patient is seen, even if ADRs have been assessed previously. This is important for a number of reasons. First, a patient's response to a drug may change with time. A prime example is the non-allergic drug rash that often occurs in pediatric patients receiving penicillin for the first time. Although this will likely be documented as an ADR when it occurs, it is not a contraindication for future penicillin use since it is not a true allergy. A patient may discover that he/she has no reaction to the drug if re-challenged later in life, and this change in information would only be captured if the individual is interviewed regularly about his/her ADR history. In fact, this same change in ADR history can occur when and if any drug is re-challenged. Consider a patient who claims Drug X causes heartburn, but actually has underlying GERD. Once the GERD is diagnosed, treated, and controlled, Drug X may be re-challenged without issue because it was never actually the cause of the symptoms originally. This is another case where the ADR history has changed and this change would only be captured with consistent, recurring inquiries. Finally, even if a patient's ADR profile does not change from visit to visit, recurrent ADR interviews allow opportunity for more accurate information to be recorded. A patient may recall an ADR that he/she could not previously or may be able to assign more detailed symptoms to a previously reported ADR. The more we ask, the more we will know.

A Bright Future

Adverse drug reactions pose a significant threat to the health and safety of our patients. While further research and data collection are needed to better determine the exact impact of ADRs on the US health care system, extrapolation of available data suggests the cost in dollars and other resources is significant. Fortunately technology has provided the tools to identify and thoroughly document ADRs, making ADR monitoring and repeat ADR prevention a realistic means of increasing patient safety and decreasing unnecessary cost burden. By consistently and appropriately employing ADR data collection in inpatient and outpatient care processes, we can ensure a bright future for the Indian Health Service and the patients for whom we care.

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Prenatal Alcohol Exposure among Alaska Native/American Indian Infants

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Introduction

Alcohol use during pregnancy, or prenatal alcohol exposure (PAE), is a national concern, as alcohol use can negatively impact a woman's health and can be passed across the placenta to a developing fetus. Abusing alcohol during pregnancy poses risks to the fetus (including poor growth, decreased muscle tone, delayed development, heart defects, physical/structural problems, and mental retardation) known as Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Spectrum Disorder (FASD).[1] FAS is the term used to describe growth, mental, and physical problems that may occur in an infant when a mother drinks alcohol during pregnancy, while FASD is the term used to describe the additional direct and indirect social, physical, and emotional effects.[2-4]

FAS is one of the most preventable causes of mental retardation in the US.[1,5] Annual long-term economic and societal costs associated with FAS and FASD are in the billions.[2-4,6] In 2002, Alaska was assessed as having the highest FAS prevalence rates in states using similar surveillance methodologies.[1,7-12] Between 1996 and 1998, FAS prevalence was 15-fold higher in the Alaska Native population than the general Alaska population.[13] Though this discrepancy has since decreased, Alaska Native infants still have a disproportionally higher prevalence of FAS, with 32 Alaska Native infants with FAS compared to six Non-Native Alaskan infants with FAS per 10,000 live births between 2000 and 2002.[14]

Abstinence from alcohol has been recommended for women who are pregnant or may become pregnant. Based on studies in the general population, however, prenatal abstinence from alcohol is estimated to be low (<20% of pregnant women are abstinent in the first trimester).[15] No "safe" level of alcohol use during pregnancy has been established, and prevalence of alcohol use among pregnant and non-pregnant women of childbearing age continues to be a concern. However, larger amounts of alcohol and binge alcohol drinking (currently defined for women as ≥ 4 drinks per sitting) appear to be more harmful than smaller amounts of alcohol ingestion.[16,17] Despite increased education and delays in age of conception, drinking behaviors do not appear to have significantly changed.[18] During 2001 - 2005, the highest percentages of pregnant women in the US reporting any alcohol use were women aged 35 - 44 years (17.7%) and women with college degrees (14.4%).[19]

Alcohol ingestion in pregnant Alaska Native/American Indian (AN/AI) women is an even greater public health concern than in the general US population.[13,20-22] Given high rates of self-reported alcohol use in adults and the high prevalence of FAS and FASD in AN/AI infants, understanding alcohol intake habits of AN/AI pregnant women is vital to develop targeted prevention strategies.[1,7-12] As FASD among infants is a direct result of PAE among pregnant women, there is a need to better identify, document, and understand alcohol consumption by AN/AI women during pregnancy (e.g., exposure to alcohol through over-the-counter medications, absolute alcohol consumption, and occurrence of binge drinking). In this study we assess self-reported PAE among AN/AI women.

Methods

Setting. Southcentral Foundation's Primary Care Center (SCF-PCC) in Anchorage, Alaska provides pre-paid primary care services to approximately 45,000 eligible AN/AI people in the urban and the remote rural surrounding areas of Anchorage.

Recruitment. Any AN/AI woman ≥ 21 years of age, in their 3rd trimester of pregnancy, and eligible for care at the SCF-PCC was eligible to participate in the study.

Questionnaire. After consent, women were asked to complete a detailed questionnaire on alcohol exposure for each trimester of pregnancy and the month prior to pregnancy. Participants identified both the month in which they found out they were pregnant (received a positive pregnancy test) and the month of their first prenatal visit. Based on answers to these questions, the recruiter determined the month prior to pregnancy, 1st trimester, 2nd trimester, and 3rd trimester. Sources of alcohol included medication and household items (e.g., mouthwash) as well as beverages. If consumption of beverages containing alcohol was reported, additional questions about alcohol type, frequency of consumption, and amount consumed were asked. Women were also asked about

their alcohol consumption during the month before pregnancy and each trimester. The nine types of alcoholic beverages assessed were: beer, malt liquor, wine, sweet wine, fortified wine, wine coolers, hard liquor, mixed drinks, and liqueurs. Questions regarding age, height, weight (before pregnancy), and smoking status were also included on the questionnaire.

Data collection and categorization. De-identified questionnaire data were entered and verified using QDS 2.5 software (Bethesda, MD). Daily absolute alcohol values were calculated from participants' responses to type and volume of alcohol by adjusting reported ounces consumed per day to a number of standardized drinks and multiplying by 0.5 ounces of absolute alcohol per standardized drink. For example, 4 ounces of wine represented a standardized drink and thus represented consumption of 0.5 ounces of absolute alcohol. Categorization of absolute alcohol consumption was adapted from prior studies with less than 0.01 fluid ounce (fl. oz.) per day indicating abstinence from alcohol (i.e., fewer than 12 drinks in a year), 0.01 - 0.21 fl. oz. per day indicating light drinking (i.e., fewer than 3 drinks a week), 0.22 - 1.00 fl. oz. per day indicating moderate drinking (i.e., 3-14 drinks per week), and more than 1.00 fl. oz. per day indicating heavier drinking (i.e., more than 14 drinks per week).[23,24] At the time of the study, binge drinking was defined as ingesting five or more drinks in one sitting, and thus was assessed as such on the questionnaire.[16,25-27] It should be noted that since the time this study was conducted, the definition of female binge drinking has been reduced from ≥ 5 drinks to ≥ 4 drinks in one sitting according to the National Institute of Alcohol Abuse and Alcoholism (NIAAA).

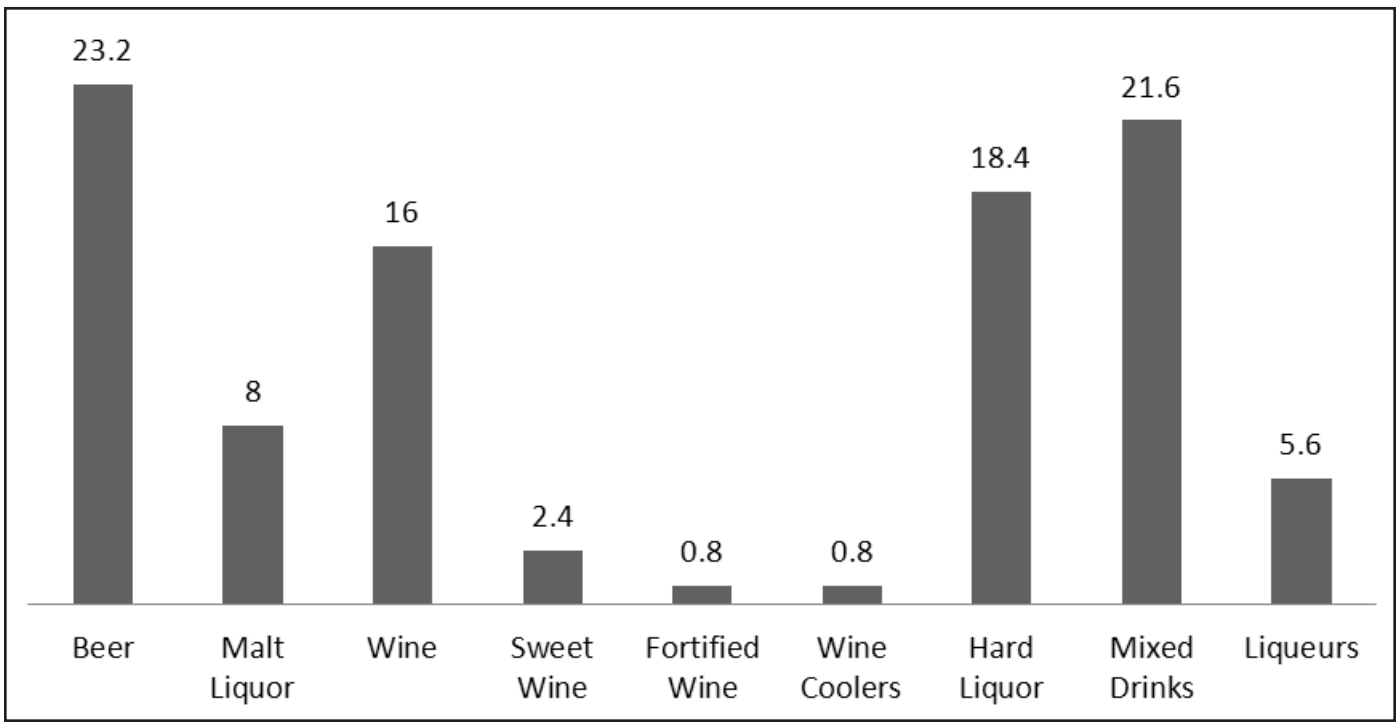
Data Analysis. Statistical analyses were performed using SAS 9.2 software (Cary, NC). Associations with reported drinking were investigated with the Chi-square Test of Proportions or Fisher's Exact Test when appropriate. Associations of reported drinking between time periods were tested with McNemar's Test. P-values less than 0.05 were considered significant.

Results

Demographics. Over the course of the recruiting period, 125 AN/AI pregnant women were enrolled into the study. The average age of participants was 26.8 years of age, with a range of 21 to 39 years of age.

Medication/Alcohol-based Product Use. Medication/Alcohol-based product use was reported by more than half of women: multi-vitamins (81%), hand sanitizers (70%), and pain relievers (64%). Multi-vitamins were predominately used on a daily basis (39%), with the mean number of weeks of use at 24.6 weeks (standard deviation [std] = 12wks). Hand-sanitizer use 2-3 times per trimester occurred in 23% of pregnant women, with the mean number of weeks of use at 15.5 weeks (std = 15wks). Pain relievers use 2-3 times per trimester was reported in 42% of pregnant women with the mean number of weeks of use at 9.7 weeks (std = 12wks).

Figure 1. Type of alcohol ingested during pregnancy (percentages of cohort)



Reported Drinking During Pregnancy. Of the 125 participants, 43% (n=54) reported drinking alcoholic beverages during pregnancy (1st, 2nd, and/or 3rd trimester), with 35% (n=44) reporting alcohol use in the 1st trimester only. The remaining 8% (n=10) reported alcohol use in more than one trimester. Of the 80 women who reported alcohol use for the month prior to pregnancy, 59% (n=47) reported drinking during pregnancy. Of the 71 women that reported no alcohol use during the 1st, 2nd, and 3rd trimester, 54% (n=38) reported alcohol use in the month prior to pregnancy. Thirty percent (30%) of the total participant pool (n=38) reported no alcohol consumption from the month before pregnancy through the 3rd trimester. The most prevalent types of alcoholic beverages consumed during pregnancy were beer (23.2%), mixed drinks (21.6%), hard liquor (18.4%), and wine (16%) (Figure 1).

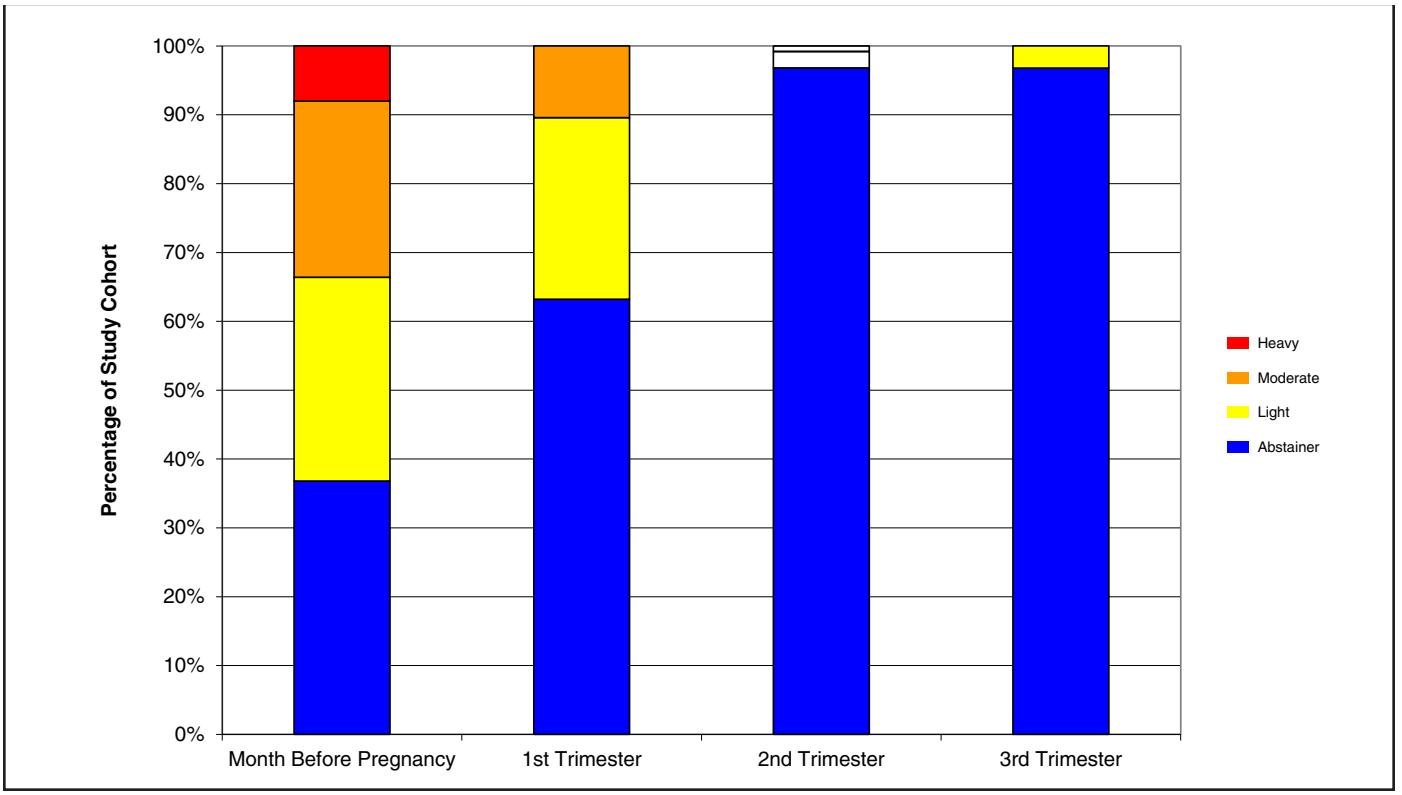
Absolute Alcohol Consumption. Daily reported absolute alcohol consumption was compared by trimester and the month prior to pregnancy (Figure 2). Over the course of the pregnancy, daily values of absolute alcohol consumption decreased greatly between the 1st and 2nd trimester, with the majority of participants fitting into the abstinence category for the 2nd and 3rd trimester. Average daily absolute alcohol consumption decreased over the duration of reporting period from 0.371fl. oz. (month before) to 0.055 fl. oz. (1st trimester) to 0.004 fl. oz. (2nd trimester) to 0.001 fl. oz. (3rd trimester).

Binge Drinking. Twenty percent (n=25) of participants reported at least one occurrence of binge drinking during the 1st or 2nd trimester, with an additional 18 percent (n=29) reporting binge drinking in the month prior to pregnancy. No women reported binge drinking in the third trimester. Demographics of women reporting binge drinking are detailed in Table 1. Although age was not associated with binge drinking during the month before pregnancy (p=0.4288), during pregnancy, a higher percentage of women in the youngest age category reporting binge drinking compared to the older categories, though this relationship was not statistically significant (p=0.0544). History of tobacco use (p=0.0403) and smoking tobacco use during pregnancy (p<.0001) were also associated with binge drinking during pregnancy. Body mass index, however, was not associated with binge drinking before or during pregnancy. Importantly, women who reported binge drinking during the month before pregnancy were significantly more likely to report binge drinking during their 1st trimester (p<.0001) and 2nd trimester (p<.0001, data not shown).

Discussion

In our study, self-reported alcohol use among AN/AI women during pregnancy (~50%) continues to be higher than in the general population. Reported drinking was primarily limited to pre-conception and the first trimester, with a dramatic decrease in the second and third trimesters.

Figure 2. Daily absolute alcohol consumption categorizations by trimester



Prevention programs, such as the Alaska FAS Prevention Project, may have contributed to observed decreases, especially in the second and third trimester; however, alcohol exposure during pre-conception and during the first trimester remains high and of concern. Binge drinking pre-conception was also associated with binge drinking in the second trimester and during the entire pregnancy. Thus, additional study focused on pre-conception, the first trimester, and binge drinking might augment FASD prevention efforts among AN/AI women.[7,10,15,28,29] For instance, providers could be encouraged to routinely discuss childbearing plans with women they serve and then encourage abstinence from alcohol among women as they try to become pregnant, or among sexually active women without effective contraception. Such efforts may potentially attenuate alcohol use very early in the first trimester when women may not know they are pregnant.

Since all drinks do not contain the same amount of alcohol, data were collected to identify the type and quantity of beverage ingested. In our study, absolute ethanol consumption was quite variable and ranged from 0 to 237.5 fl. oz. per trimester (Figure 2) and included a variety of drinks (Figure 1). Efforts to better identify and understand consumption habits of AN/AI women during pregnancy are vital for targeted PAE prevention strategies. Providers should review with pregnant women the risks associated with ingesting alcohol, making note of the risks associated with different types and volumes of drinks.[20,30]

Binge drinking is particularly harmful to fetal brain development.[19] In this study we found significant pre-conception binge drinking, and we found pre-conception binge drinking to be strongly associated with binge drinking during the first trimester (Table 1). Given the current lowered threshold for binge drinking to ≥ 4 drinks in one sitting, estimates of binge drinking we present may be underestimating the prevalence according to current definitions. Younger women were more likely to binge drink (Table 1) suggesting a need for more screening and FAS education of women of child-bearing age and during early pregnancy. According to a nationwide, postpartum survey, 42.5% of all Alaskan women having a live birth reported the pregnancy was either mistimed

Table 1. Demographics and predicative comparisons for binge drinking during pregnancy and the month prior to pregnancy

Binge Drinking (125 Surveys)	Month before pregnancy				p-value[b]	Pregnancy[a]				p-value[b]
	YES		NO			YES		NO		
	n	%	n	%		n	%	n	%	
DEMOGRAPHICS										
Age (16 missing)										
21 – 25 years	22	42.31	30	57.69	.4288	15	28.85	37	71.15	.0544
26 + years	19	33.33	38	66.67		7	12.28	50	87.72	
Smoking during pregnancy or month prior? (2 missing)										
Yes	36	59.02	25	40.98	**<.0001**	22	36.07	39	63.93	**<.0001**
No	14	21.88	50	78.13		3	4.69	61	95.31	
Body Mass Index (27 missing)										
Underweight / Normal weight	11	34.38	21	65.63	.6198	6	18.75	26	81.25	1.0000
Overweight	8	29.63	19	70.37		5	18.52	22	81.48	
Obese	16	41.03	23	58.97		8	20.51	31	79.49	
PREDICTIVE COMPARISONS										
Binge Drinking during 1st Trimester?										
Yes	20	83.33	4	16.67	**<.0001**					
No	30	29.70	71	70.30						
Binge Drinking during Pregnancy[a]?										
Yes	21	84.00	4	16.00	**<.0001**					
No	29	29.00	71	71.00						

[a] Includes 1st, 2nd, and/or 3rd trimester reported drinking.
[b] Demographics comparisons used chi-square test of proportions unless cell counts were too small in which case Fisher's exact test was used. Predictive drinking comparisons used McNemar's Test. Significant p-values in bold.

(32.4%) or not planned (10.1%). Contraceptive use among these women was reported at 45.3%. Considering these percentages and the prevalence of pre-conception binge drinking in our cohort, health care providers should encourage abstinence from alcohol among Alaska Native women who may become pregnant, whether using contraception or sexually active not using contraception. Efforts can be targeted at younger women, as they were more likely to continue binge drinking into their pregnancy.

Future research to identify Alaska Native women's views regarding pregnancy may help establish appropriate pregnancy planning programs and further understanding of social and/or cultural characteristics affecting pregnancy. Chang et al. has developed and tested a four item alcohol exposure screening tool proven to be more sensitive during pregnancy than typical obstetric staff assessment in ethnically diverse populations.[29] Based on our data, this screening tool may be useful to identify women at increased risk in the AN/AI population. In addition, the questionnaire used did not differentiate between alcohol exposure very early in the first trimester when women may not know they are pregnant versus alcohol exposure later in the first trimester. Additional research could make this differentiation.

Another limitation to our study was sample size. Our study achieved a quarter of the original recruitment goal. A prenatal tobacco exposure study recruiting in parallel with this study enrolled three times as many participants.This observation suggests a reluctance of AN/AI pregnant women to enroll into prenatal alcohol-related studies. Social stigma associated with drinking during pregnancy may have been a barrier in achieving the original recruitment goal and thus attaining an even more representative participant population of pregnant AN/AI women. Lastly, another limitation to our study was age of respondents. Based on the legal drinking age we decided to look at women 21 years and greater. This may underestimate the impact of underage drinking on the prevalence of FAS in the AN/AI community.

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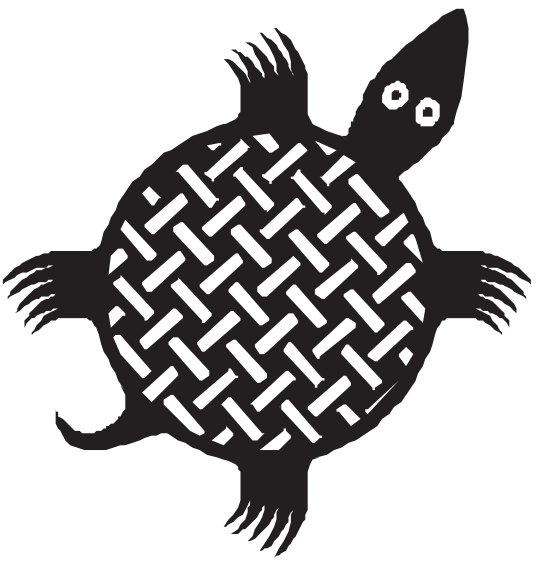

Preparing the ED for Single Patient Decontamination

ENS Mikayla Deardorff, Institutional Environmental Health Officer COSTEP Intern, Office of Environmental Health and Engineering, Phoenix Area IHS, Phoenix, Arizona; CDR Ricardo Murga, CSP, RS, MPH, Institutional Environmental Health Officer, Office of Environmental Health and Engineering, Phoenix Area IHS; and CDR David Cramer, RS, MPH, Intuitional Environmental Health Program Manager, Emergency Management Point of Contact, Phoenix Area IHS

September 11, 2001 and the subsequent anthrax attacks underscored the need for hospitals to prepare to treat victims of weapons of mass destruction. Joint Commission Emergency Management standards[1] require hospitals to develop plans that provide for chemical, biological, radiological, and nuclear (CBRN) decontamination. In addition, the federal government has committed millions of dollars in grants funds to prepare hospitals for patient decontamination and other terrorism related emergencies. To that end, many IHS hospitals have assembled patient decontamination teams and purchased large portable shower tents that can be deployed following a mass casualty event. However, many IHS facilities are located in rural areas where it is just as likely if not more so that a single patient will present contaminated with a hazardous material such as a pesticide from a farm accident. The deployment of a decontamination team and shower tent under the best of circumstances will likely take at least 30 minutes. This poses a question: are IHS hospitals prepared to decontaminate a single patient quickly and effectively? This article explores key facets of single patient decontamination, including who will likely be conducting single patient decontamination, maintaining appropriate supplies and equipment, as well as coordinating the proper training.

Elements of a Single Patient Decontamination Plan

Planning for single patient decontamination should include identification of the workers who will be washing the patient, training, location of the decontamination site, source of water, security, medical monitoring of workers, proper clean up, donning and doffing of personal protective equipment (PPE), and more.[2]

When presented with a single contaminated patient, time is of the essence, particularly if the patient has injuries. The patient may also present after normal hours. Therefore, Emergency Department (ED) staff will likely have to conduct the patient decontamination. ED personnel should be trained, know the location of the supplies, and have appropriate personnel protective equipment on hand.

What Equipment is Needed

According to the Occupational Safety and Health Administration (OSHA) publication *Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances*, Emergency Departments should have an internal decontamination room to be used for single patient decontamination. The room should be directly vented to the outside with a negative pressure relationship to the rest of the hospital. It should have an active drain valve to divert wastewater into a holding tank and prevent contamination of the community sewer system. The room should be free of non-essential and non-disposable equipment and should be stocked with necessary items for proper decontamination procedures.

Unfortunately, a dedicated decontamination room is not always available, especially in older facilities, and the patient will have to be decontaminated outside to prevent entrainment of contaminants in the hospital's heating, ventilation, and air conditioning system. In this case, an outside water source should be accessible with both hot and cold water. A garden hose with a spray nozzle should be available to wash off the patient. The hospital should have a plastic pool to contain the waste water. The location of the decontamination site should consider privacy, and a curtain should be stored along with the pool.

The ED should maintain "decon go kit" containing:

- Powered air-purifying respirator (PAPR)
- HEPA/organic vapor/acid gas cartridges
- Double layer protective gloves
- Chemical resistant suit
- Chemical-protective tape to seal suit
- Chemical-protective boots
- Garden hose with spray nozzle
- Mild soap or shampoo
- Plastic pool
- Scrub pads
- Scissors
- towels
- trash bags
- hospital gown

The "decon go kit" should be located in an area of the ED where it can be easily accessed in a timely manner. If a non-ambulatory, contaminated patient arrives, two stretchers should be provided. One stretcher is to be used during decontamination, and the other stretcher is to be used after the patient is decontaminated, for transportation. Additional medical supplies may be provided for further care of the patient on an as-needed basis.

What to Do When the Contaminated Patient Presents

If a patient presents to the emergency room and is suspected to be contaminated with a biological, chemical, or radiological agent, the following actions need to be taken immediately:

- Direct the patient outdoors or to the facility's internal decontamination room to prevent contamination of other patients and the rest of the hospital
- Reassure the patient that help is coming
- Activate your facility's Decontamination Response Plan and grab the "decon go kit"
- Set up decontamination area at predetermined decontamination site
- Properly don level C PPE
- Assist patient in removing contaminated clothing and secure personal property
- Place clothing items in a trash bag or hazardous waste container
- Wash patient with mild soap or shampoo and water for three to five minutes (patient may wash themselves)
- Guide or transport patient to medical treatment area
- Decontaminate equipment and dispose of waste properly
- Doff PPE
- Restock "decon go kit" with necessary items

There is a Plan, Now What?

Successfully donning Level C PPE and washing a contaminated patient entails some know-how. OSHA requires that all personnel who will be performing patient decontamination have a minimum of eight hours of operational level training annually.[3] In training, participants learn about the CBRN hazards, proper donning and doffing of PPE, triage, safety, and the specific emergency decontamination plan for your health care facility. Drills can be part of the eight-hour required training and should be held at least twice annually to familiarize personnel with working in PPE.

Workers performing patient decontamination should also have a medical evaluation. Tyvek suits and powered air purifying respirators (PAPRs) get hot quickly. There also may be a need to lift or support the patient. It is better to identify employees with underlying medical conditions in advance than to create an additional casualty during a response.

ED personnel are some of the busiest staff in the hospital. It is therefore advisable to break up training into two-hour blocks throughout the year. In addition, offering continuing medical education credits for the training helps out with ED staff career development needs. Providing employee recognition such as Civil Service or Commissioned Corps awards is another way to keep personnel engaged. Lastly, it is important to develop support of hospital leadership.

Conclusion

It makes sense, particularly for our rural health care facilities, to have the capacity to decontaminate a single patient. It is also logical that Emergency Department personnel may be the only staff readily available to decontaminate the single contaminated patient. It is therefore important to properly train and equip ED personnel to meet the needs of the patient safely and effectively. Practice makes perfect, so work patient decontamination into the facility's training plan.

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

IHS Child Health Notes

Quote of the month

*"Tragedy is when **I** cut my finger. Comedy is when **you** fall in a sewer and die."*

Mel Brooks

Articles of Interest

ACIP provisional recommendations for pregnant women on use of tetanus toxoid, reduced diphtheria toxoid and acellularp ertussis vaccine (Tdap) *http://www.cdc.gov/vaccines/recs/provisional/downloads/pregnant-Tdap-use.pdf*

On August 5, 2011 the Advisory Committee on Immunization Practices recommended that pregnant women should receive the tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine (Tdap) during the late second trimester or third trimester rather than immediately after delivery. The goal of the change is to better protect newborns from pertussis. Infants vaccinated with Dtap at 6-8 weeks are not fully protected against pertussis until the completion of their primary series at 6 months of age.

By shifting the maternal Tdap dose from the immediate postpartum period -- which was recommended by ACIP in 2008 -- to the late stages of pregnancy (after 20 weeks gestation), protection against pertussis is provided directly to the mother and indirectly to the fetus through transplacental antibodies. Thus, when the baby is born, he or she will already have some protection before starting the DTaP series.

ACIP emphasized, contrary to popular belief even among health care workers, that pregnancy is not a contraindication for receiving Tdap. A cost-effectiveness analysis presented by Garrett Asay, PhD, of the CDC's National Center for Immunization and Respiratory Diseases, showed that the costs of vaccination would be equal whether Tdap was given during pregnancy or in the postpartum period, but that a dose during pregnancy would reduce total pertussis cases, hospitalizations, and deaths, making it more cost-effective.

The new recommendation will continue to be complemented by guidance regarding cocooning. Since 2005, the committee has recommended that all adults who have or who anticipate having close contact with an infant younger than 12 months should receive a single dose of Tdap. That guidance was slightly modified to include potential adolescent contacts.

The American College of Obstetricians and Gynecologists and the American Academy of Family Physicians are likely to endorse these recommendations in order to remain consistent with ACIP.

Editorial Comment

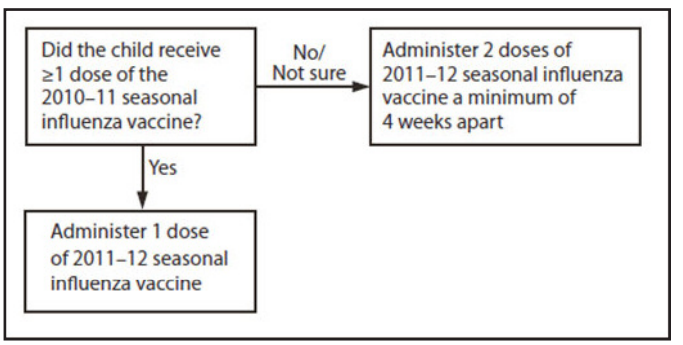
AI/AN infants have twice the rate of pertussis hospitalization as the general US population. It is the least we can do to make sure that mothers and other family members are vaccinated with Tdap. We should also make sure that all health care personnel who work with young infants are also immunized with Tdap.

Infectious Disease Updates
Rosalyn Singelton, MD, MPH
Influenza Vaccine Recommendations: What's new in 2011 - 12?

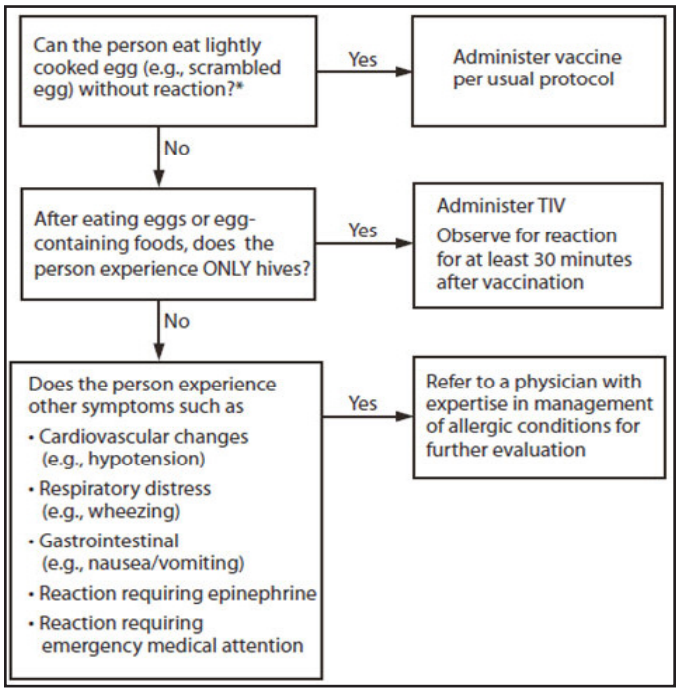
Annual influenza vaccination is required for all persons > 6 months of age. The influenza vaccine strains for 2011 - 12 are unchanged from 2010 - 11; however, annual vaccination is recommended because post vaccination antibody titers decline over the course of the year.

American Indian/Alaska Native priority: If vaccine supply is limited, vaccination efforts should focus on priority populations. American Indian and Alaska Native people are now included as a priority population because of their higher influenza hospitalization and mortality rates identified during the 2009 H1N1 pandemic.

Vaccine doses for children <9 years of age: Because the 2011 - 12 vaccine strains are unchanged from 2010 - 11, children who received 1 or more doses in 2010 - 11 require only 1 dose in the 2011 - 12 season. All others require 2 doses, separated by > 4 weeks.



Egg Allergies: There are new 2011 - 12 recommendations for persons who have or report egg allergies that are summarized in this figure:



The 2011-12 Influenza Vaccine ACIP recommendations are located at *www.cdc.gov/mmwr/pdf/wk/mm60e0818.pdf*

Recent literature on American Indian/Alaska Native Health
Jeff Powell, MD, MPH

Early childhood caries in indigenous communities. American Academy of Pediatrics, Committee on Native American Child Health, Canadian Pediatric Society, First Nations, Inuit and Metis Committee. Pediatrics 2011;127:1190 *http://pediatrics.aappublications.org/content/127/6/1190.full.html*

Pertinent Web Link resources recommended in the article: *http://oralhealth.circumpolarhealth.org/articles-reports/united-states/*
http://www.ihs.gov/headstart/documents/oralhealthbestpractices.pdf

This month I would like to highlight the Committee on Native American Child Health Policy Statement on dental health for Indigenous Communities. The policy statement is a collaborative statement representing organizations in both the US and Canada. Many pediatric providers serving American Indians and Alaska Natives (AI/AN) have worked hard to improve early childhood oral health. This reflects interest both within Native American communities and the Indian Health Service, as well as a focus nationally within the American Academy of Pediatrics and other organizations. The statement reviews the current literature on existing disparities, health implications, and prevention of Early Childhood Caries (ECC). The referenced literature summarizes a 1999 Indian Health Service survey showing 68 percent of preschool aged AI/AN children to have untreated dental caries. This represents a very large difference from US children overall, only 19 percent of whom had untreated decay at the same age. It is clear that this disparity represents a major problem for the health and well being of AI/AN children. A breadth of literature now exists linking oral health to general health and wellbeing, both physical health and psychological health. The bulk of this policy statement focuses on ways to narrow the disparities.

Prevention efforts and interventions are reviewed and summarized. Underlying all of the interventions is the knowledge that ECC represent a preventable infectious disease of childhood. The "causative triad" includes the presence of cariogenic *Streptococcus mutans*, high sugar containing childhood diet (with "fermentable carbohydrate"), and poor integrity of tooth enamel.

Appendix 1 shows the summary recommendations, with Grades of Recommendations and Level of Evidence available for the recommendation. This follows the AAP Policy statement format of the US Preventive Services Task Force, as well as the Canadian counterpart to the USPSTF. Grade B recommendations include the use of Motivational Interviewing to improve anticipatory guidance, the use of primary providers to provide oral health screening examinations, and efforts to provide preconception and prenatal dental screening/treatment. I will highlight with particular emphasis the "Grade A" recommendations in more detail.

First, the report recommends the immediate use of fluoridated toothpaste "for all indigenous and other high risk children after the first tooth has erupted." For infants and very young children, an adult should brush the teeth and use a very small smear of toothpaste. Slightly older toddlers and children (2 - 5) should use a "green pea" sized amount of fluoridated toothpaste and be supervised. Both age groups should do this twice daily.

The next set of "Grade A" prevention strategies are 1) application of topical fluoride varnish, and 2) improved access to dental sealant placement for patients with deep grooves or fissures. Topical fluoride has a robust literature reflecting solid efficacy. This statement references a Cochrane Review showing substantial reduction in tooth decay in both primary and permanent teeth. Evidence in AI/AN communities is referenced as well. This body of literature reflects a major reduction in caries (30 to 50% in the referenced Alaska Study). (My note: Experience in clinic is that fluoride application is quick, easy to perform (if not quiet), and tolerated well by patients. In addition, this time fits well with the use of Motivational Interviewing around obesity prevention topics). From an efficacy standpoint, a 30 to 50 percent reduction is remarkable. For this reason, the IHS currently considers best practice to be four or more topical applications of fluoride varnish between the ages of 9 and 24 months (for children

specifically involved with Head Start programs).

The use of dental sealants is recommended in light of two large evidence reviews in the dental literature published in 2008 (see references 54 and 55 in the article). The specific recommendation of this policy is that every AI/AN child receive evaluation to determine the need for sealant placement. This is softened from the cited evidence, which shows that all children in populations at high risk of dental caries should receive sealants (perhaps even on primary teeth). While reasons for this softer recommendation are not fully specified, it likely relates to the limited access to oral health care providers who could provide these sealants.

Pertaining to this access, the report does a great job of specifying the large gaps in oral health care availability. AI/AN communities have a dentist for every 2800 population, compared with 1:1500 in the US overall. The IHS dentist position vacancy rate is quoted at 24 percent. This creates a reality in which the recommended timing and frequency of dental evaluations (within six months of tooth eruption) are not feasible. With this in mind, the report smartly highlights ways to expand the capacity of the current oral health workforce in AI/AN communities. The involvement of pediatric primary providers in oral health prevention, screening, and fluoride application, is a large part of that capacity.

Lastly, I have included above two Internet links to oral health resources included in the report appendix. Both of these links contain further practical and research based content to improve preventive oral health for AI/AN communities.

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You can subscribe to *The Provider* electronically. Any reader can now request that he or she be notified by e-mail when the latest issue of *The Provider* is available on the Internet. To start your electronic subscription, simply go to *The Provider* website (*http://www.ihs.gov/Provider*). Click on the "subscribe" link; note that the e-mail address from which you are sending this is the e-mail address to which the electronic notifications will be sent. Do not type anything in the subject or message boxes; simply click on "send." You will receive an e-mail from LISTSERV.IHS.GOV; open this message and follow the instruction to click on the link indicated. You will receive a second e-mail from LISTSERV.IHS.GOV confirming you are subscribed to *The Provider* listserv.

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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.

Mid-Level Providers: Nurse Practitioners/ Physician Assistant
Aleutian Pribilof Islands Association (APIA); St. Paul and Unalaska, Alaska

This is a renowned bird watcher's paradise! Provide health care services to multiple generations of families. We are recruiting for mid-level providers for both sites: St. Paul and Unalaska, Alaska. Duties include primary care, walk-in urgent care, and emergency services; treatment and management of diabetes a plus. Must have the ability to make independent clinical decisions and work in a team setting in collaboration with referral physicians and onsite Community Health Aide/Practitioners. Sub-regional travel to other APIA clinics based on need or request. Graduate of an accredited NP or PA program. Requires a registration/license to practice in the State of Alaska and current ACLS and PALs. Minimum experience: 2 - 3 years in a remote clinical setting to include emergency care services and supervisory experience. Indian Health Service experience a plus. Will be credentialed through Southcentral Foundation. Positions available immediately. Clinic hours 8 am - 4:30 pm, Monday through Friday, and rotations scheduled and/or shared for on-call during evenings and weekends. Salary DOE, plus benefits. Contractual two-year commitment with hiring bonus, housing allowance, and continuing education to keep license current. Job description available upon request. Please send your curriculum vitae to Nancy Bonin, Human Resources Director, via e-mail to *nancyb@apiai.org*. (7/11)

Registered Nurse
Wassaja Memorial Health Center; Fort McDowell Yavapai Nation, Arizona

The Wassaja Memorial Health Center is currently seeking a registered nurse with a pay rate of $43,766 to $52,519 per annum (DOE). The registered nurse will provide direct patient care to patients of the Wassaja Memorial Health Center, an outpatient facility. This position requires a current active license as a registered nurse in the state of Arizona with at least two years experience in a clinical environment. Current Arizona driver's license and meet FMYN insurance standards.

The Wassaja Memorial Health Center is an outpatient facility located on the Fort McDowell Yavapai Nation in Arizona. Fort McDowell Yavapai Nation is located within Maricopa County about twenty-three miles northeast of Phoenix. The Wassaja Memorial Health Center provides care to all IHS eligible patients with proof of membership. The clinic operates Monday through Thursday from 7:30 am to 5:30 pm. The full-time medical staff includes a physician, a nurse practitioner, a physical fitness specialist, and a pharmacist. The facility offers the following clinical services: family medicine, dietician, podiatry, eye, community health, and on-site pharmacy.

The Fort McDowell Yavapai Nation offers a highly competitive compensation program ranging from medical and life insurance to disability and retirement plans. Some benefit programs require contributions from the employee, but most are fully paid by the company. If you are interested in applying, please contact Sarah Gonzales, HR, at (480) 789-7219; e-mail *sgonzales@ftmcdowell.org*, or submit application/resume to *recruiter@ftmcdowell.org*. To view the job description and print the application, please visit *www.ftmcdowell.org*. (7/11)

Family Practice Physician (4)
Physician Assistant (1)
Dentist (2)
Pharmacist (2)
Nurse (4)
Standing Rock Service Unit; Fort Yates, North Dakota

The Standing Rock Service Unit is a fully accredited 12-bed hospital and outpatient services facility located along the Missouri River in Fort Yates, North Dakota. In addition to inpatient, outpatient, emergency, dental, behavioral health, and optometry services, a dialysis unit (eight stations) is also available to serve our patients' needs. Indeed, through strong partnerships with health care providers in nearby Bismarck, North Dakota (approximately 60 miles away) and extension outpatient centers in Cannonball, North Dakota, McLaughlin, South Dakota, Bullhead, South Dakota, and Wakpala, South Dakota, the Standing Rock Service Unit provides comprehensive services to over 9,000 American Indians in North and South Dakota. If you are interested in a position or would like more information, please contact Kim Lawrence at (605) 226-7532; e-mail kim.lawrence@ihs.gov or Kara Todd-

Iwen at (605) 226-7808; e-mail kara.todd-iwen@ihs.gov. (7/11)

Family Practice Physician (2)
Physician Assistant (1)
Pharmacist (2)
Nurse (4)
Cheyenne River Service Unit; Eagle Butte, South Dakota

Inpatient, emergency room and outpatient services including specialty care for obstetrics, physical therapy, and optometry services are provided. Hospital and emergency room services are the only services within 90 miles of Eagle Butte. A new six-bed short stay facility is under construction and due for completion in 2011. Five providers staff this 13-bed unit. The Cheyenne River Service Unit provides comprehensive services to over 9,000 American Indians in South Dakota. If you are interested in a position or would like more information, please contact Kim Lawrence at (605) 226-7532; e-mail *kim.lawrence@ihs.gov* or Kara Todd-Iwen at (605) 226-7808; e-mail *kara.todd-iwen@ihs.gov*. (7/11)

Family Practice Physician (2)
Pharmacist (1)
Spirit Lake Service Unit; Fort Totten, North Dakota

The Spirit Lake Nation in North Dakota is served by a four-physician ambulatory care facility as well as a dental clinic and a diabetes program, a pharmacy with three pharmacists, a radiology department with state-or-the-art ultrasound imaging, a complete clinical laboratory, in addition to a mental health department. The Spirit Lake Service Unit provides comprehensive services to over 6,000 American Indians in North Dakota. If you are interested in a position or would like more information, please contact Kim Lawrence at (605) 226-7532; e-mail *kim.lawrence@ihs.gov* or Kara Todd-Iwen at (605) 226-7808; e-mail *kara.todd-iwen@ihs.gov*. (7/11)

Family Medicine Physician
Internal Medicine Physician
Emergency Medicine Physician
Nurse Practitioner
Physician Assistant
Sells Service Unit; Sells, Arizona

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

The Sells Service Unit is the primary source of health care for approximately 24,000 people of the Tohono O'odham 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, Arizona, the Santa Rosa Health Center, located in Santa Rosa, Arizona, and the San Simon Health Center located in San Simon, Arizona 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) 295-2481 or by e-mail at *Peter.Ziegler@ihs.gov*. (7/11)

Associate Director for Tribal Support, Office for State, Tribal, Local, and Territorial Support
Centers for Disease Control and Prevention; Atlanta, Georgia

The Office for State, Tribal, Local, and Territorial Support (OSTLTS) is currently seeking exceptional candidates for the position of Associate Director of Tribal Support. The position requires knowledge of the unique cultural, environmental, social, economic, political, and other interrelated factors that impact the health of American Indian/Alaska Native (AI/AN) populations. The salary range is $118,846 to $154,501 per year.

The OSTLTS serves as the primary link between the Centers for Disease Control and Prevention (CDC), the Agency for Toxic Substances and Disease Registry (ATSDR), and Tribal governments. OSTLTS has responsibility for coordinating public health programs and policies that focus on AI/AN communities.

To apply, visit *www.usajobs.gov*. Candidates external to the federal government may apply to job announcement HHS-CDC-DE-11-487758. Federal government merit promotion job announcement number is HHS-CDC-MP-11-487665. The closing date for this job announcement is Wednesday, July 20, 2011. Questions may be directed to Dr. Melanie Duckworth at (404) 498-0300 or mhd1@cdc.gov. Please do not submit resumes to this e-mail address. (7/11)

Family Practice Physician
Family Nurse Practitioner
Physician Assistant
Psychiatrist
Bay Mills Health Center/Bay Mills Indian Community; Brimley, Michigan

The Bay Mills Health Center is seeking a family practice physician, MD/DO, board certified. Must have completed a residency program and have a Michigan license or able to obtain one. New graduates are welcome to apply. We are also seeking a full time psychiatrist who is board certified, able to obtain a Michigan license and who has completed a residency program. The primary focus is on the adult population with some children in the patient case load. We are in need of a certified mid-level, an FNP or a PA-C with a background in family practice.

The health center is located in the beautiful eastern Upper Peninsula of Michigan on the Bay Mills Indian Reservation. We are located on the shores of Lake Superior, bordering Canada, and are rich in culture. The area is the outdoor enthusiast's dream.

We are an outpatient facility open 8 am to 4:30 pm, Monday through Friday. We have an onsite laboratory, pharmacy, x-ray, behavioral health, dental, community health, and social service departments. Physicians see between 18 - 21 patients per day, with adequate time to be acclimated to the facility and procedures. There are no nights or weekends on call. The Bay Mills Health Center was established in 1976 and is a Federally Qualified Health Center. The health center is open to the general public and is Joint Commission accredited. Our patient focus is geared toward prevention. We are striving to become a Patient Centered Medical Home. We offer a competitive salary, student loan repayments options, CME leave and allowance, a generous leave policy, and comprehensive benefits. If you are interested, please contact Audrey Breakie at (906) 248-8327 daytime, (906) 437-5557 evenings, or e-mail *abreakie@baymills.org*. (7/11)

Family Practice Physician
Menominee Tribal Clinic; Keshena, Wisconsin

Join seven experienced primary care physicians in beautiful wooded 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 pristine Wolf River. Practice in an efficient setting with committed colleagues, your own nurse, and a robust electronic health record. Inpatient and obstetrical care is 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 8,000 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*. (7/11)

WIC Coordinator
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. Four years clinical nutrition and/or community nutrition work experience with progressive experiences in maternal/child nutrition, outpatient medical nutrition therapy, and program planning and administration. Must be a registered dietitian and eligible for dietetic licensure in the State of Alaska.

The WIC Coordinator/RD works as a member of the SEARHC health promotion team to assess for, plan, implement, administer, and evaluate nutrition and health education programming that responds to Goals 8 and 9 in SEARHC's strategic plan. The WIC Coordinator also works to ensure high quality WIC services are provided to eligible women, infants, and children throughout southeast Alaska. Additionally, the WIC Coordinator partners with organizations working with the WIC population to make appropriate referrals and to enhance the WIC program.

SEARHC is a nonprofit 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 online at www.searhc.org, or contact our Human Resources Office at (907) 966-8311 or send an e-mail to *hr-web@searhc.org*. (06/11)

Family Nurse Practitioner
Family Practice Physician
Physician Assistant
Pharmacist
Dentist
Clinical Social Worker (3)
School Social Worker
Behavioral Coordinator
Child Adolescent BHS Coordinator
Substance Abuse Treatment Coordinator
Alamo Navajo School Board, Inc.; Alamo, New Mexico

The Alamo Navajo Health Services is seeking applicants to fill numerous positions. Our organization requires background investigation as required by law. ANSB, Inc. offers a benefits package including medical, dental, vision, life, and disability insurance, and a 403B retirement plan. ANSB, Inc. gives Navajo/Indian Preference to qualified applicants. For information about qualifications and requirements, and to request for a position description or application, please call the Personnel Office at (575) 854-2543 ext. 1309 or 1304; or e-mail *rkelly@ansbi.org*. (5/11)

Clinical Director
Confederated Tribes of the Umatilla Indian Reservation; Pendleton, Oregon

Yellowhawk Tribal Health Center houses a fully accredited, primary care medical facility located on the Confederated Tribes of the Umatilla Indian Reservation. We are looking for a highly motivated, dedicated clinical director to join our already established two-provider practice. We offer excellent hours in a team environment, a well-funded and well-equipped clinic, a competitive salary, and an outstanding benefits package with relocation assistance, and signing bonus. Yellowhawk is located 10 minutes from Pendleton, Oregon, in the foothills of the beautiful Blue Mountains. Come and experience our culture and a rewarding practice where the focus is on quality patient care. Please contact Janyce Quaempts at YTHC, PO Box 160, Pendleton, Oregon 97801; telephone (541) 278-7549; e-mail *janycequaempts@yellowhawk.org*; or see our website at Yellowhawk.org. (5/11)

Hospital Quality Manager
Community Health Services Quality Manager
Safety and Infection Control Officer
Data Specialist
SouthEast Alaska Regional Health Consortium (SEARHC); Sitka, Alaska

Are you passionate about quality improvement and patient satisfaction? Do you enjoy applying new approaches to difficult problems? Do you have a positive attitude and desire to succeed? If so, an exciting opportunity awaits you in scenic Sitka, Alaska. SEARHC recently created a Performance Improvement Division and is recruiting for the following positions:

Performance Improvement Director: a new position responsible for management of all aspects of the program including customer service, accreditation, infection prevention and control, and patient safety. Position reports directly to the COO and works closely with other division directors in managing and directing the health programs of SEARHC.

Hospital Quality Manager: responsible for infection control, patient safety activities, patient satisfaction, risk management, hospital accreditation through the Joint Commission, and data management.

Community Health Services Quality Manager: responsible for infection control, patient safety activities, patient satisfaction, risk management, accreditation through AAAHC, and data management.

Safety and Infection Control Officer: responsible for infection control, emergency preparedness, risk assessments, and safety surveys.

Data Specialist: Part-time position responsible for data management, analysis, and reporting used to improved quality of care and customer satisfaction.

Native American preference applies. Apply online at *www.searhc.org*. For more information e-mail Connie Goldhahn at *connieg@searhc.org*; telephone (907) 966-8629. (4/11)

Family Practice PA-C
Family Nurse Practitioners
Family Practice Physicians
Fort Thompson Health Center; Fort Thompson, South Dakota

The Ft. Thompson Health Center in Ft. Thompson, South Dakota is seeking board eligible/board certified physicians and mid-levels with at least 1 - 2 years post-residency experience. We are also in need of family practice physician assistants and family nurse practitioners. Ft. Thompson is located in rural south central South Dakota, east of the Missouri River on the Crow Creek Indian Reservation, and is approximately 80 miles from the Nebraska border. We are a busy clinic that offers the following services: family practice, ob/gyn, pediatrics, optometry, dentistry, dietary counseling, and behavioral health. Our staff is dedicated and devoted to providing quality patient care. 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, Sioux cultural history, and land 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 Mr. Robert Douville, Clinical Services Administrator at (605)245-1514; e-mail him at *robert.douville@ihs.gov*; or Diana Rodriguez, MD, Medical Director at (605) 245-1516; e-mail her at *diana.rodriguez@ihs.gov*. (4/11)

Internist
Family Practice Physician
Family Practice Nurse Practitioner
Internal Medicine Nurse Practitioner
Oklahoma City Indian Clinic; Oklahoma City, Oklahoma

The Oklahoma City Indian Clinic is a comprehensive ambulatory health care facility located in the Oklahoma City metropolitan area. The clinic is a non-profit Urban Indian health facility. From its beginning in 1974 as a volunteer, after hours clinic, it has grown to serve over 16,000 patients. Clinical services offered on-site include Family Medicine, Internal Medicine, Podiatry, Pediatrics, Dental, Optometry, Radiology, Public Health, Behavioral Health and WIC. The clinic also has a Laboratory and Pharmacy.

The full-time medical staff includes two family physicians, a pediatrician, two physician assistants and a pediatric nurse practitioner. We are currently recruiting for a board certified/board eligible family medicine physician and an internal medicine physician for our growing clinic. Operating hours for the clinic are 8:00 am – 5:00 pm Monday through Friday; no nights, weekends, or on-call. The clinic

offers competitive salary, excellent benefits, retirement, and holidays off. The clinic pays 100% of premiums for medical and dental insurance for employee and family. The clinic also pays for licensures, liability insurance, and CME.

The Oklahoma City Indian Clinic is located in the heart of Oklahoma City and offers limitless entertainment, cultural, and recreational opportunities. Enjoy shopping, fine dining, downtown night life, museums, NBA basketball, Division 1 college football, professional baseball, and hockey. There are also major universities and colleges close by for continuing education opportunities. Oklahoma City's economy continues to grow. As reported in USA Today and Newsweek, Oklahoma City has proven to be one of the most recession-proof places to live in the United States.

For more information, inquiries, or if interested, please contact Dr. Mark James, Medical Director, at (405) 948-4900 ext. 238 or by e-mail at *mark.j@okcic.com*; or Monica Tippit, Director of Human Resources at (405) 948-4900 ext. 214 or by e-mail at *monica.t@okcic.com*. (4/11)

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*.

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Indian Health Service
Clinical Support Center
Two Renaissance Square, Suite 780
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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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Publication of articles: Manuscripts, comments, and letters to the editor are welcome. Items submitted for publication should be no longer than 3000 words in length, typed, double-spaced, and conform to manuscript standards. PC-compatible word processor files are preferred. Manuscripts may be received via e-mail.

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