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Identifying Polypharmacy among Older Adults Using IHS National Data Warehouse Data

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Introduction

Polypharmacy, in this report, refers to the concurrent use of multiple medications by non-hospitalized individuals. Polypharmacy has been associated with an increased risk of hospitalization, higher risk of falls, increased frequency of medication errors, non-adherence issues, and adverse drug events.¹⁻⁹ Multiple medication use also contributes to excessive medical costs. For example, older patients with heart failure who took eleven drug doses per day had annual drug costs above \$3,800 in 2001.⁸

Older patients are more vulnerable to the adverse consequences of multiple medications because of frailty, impaired cognitive abilities, and sensitivity to medication effects at lower drug levels.^{7,10} A 2002 literature review concluded that rates of inappropriate prescribing practices were “alarmingly high” for the elderly, and “the most significant risk factor for receiving an inappropriate medication was the total number of prescribed drugs being taken.”¹¹

Older adults are more likely to receive multiple prescriptions to treat chronic conditions such as hypertension, hypercholesterolemia, and cardiovascular disease. High rates of diabetes among American Indians and Alaska Natives greatly increase the likelihood of their receiving multiple medications.¹² For example, patients with diabetes ages 70 and older in a British general practice were taking an average of seven medications (range, zero to 17). The medications were prescribed for treatment of diabetes, vascular disease risk factors, and co-existent conditions.¹³

“Elderly Americans consume one-third of all the prescription medications prescribed each year, yet they comprise less than 13% of the population.”²³ The American

Indian and Alaska Native population aged 65 and older was 225,000 in 2008 and is expected to be over 900,000 by 2050.¹⁴ To identify the extent of polypharmacy among older American Indians and Alaska Natives, we analyzed data from the Indian Health Service (IHS) National Data Warehouse (NDW) for FY 2009.

Methods

The National Data Warehouse (NDW) is a national repository of health care information. The information is gathered from all the associated direct IHS, tribal, and urban Indian health care sites and regional (Area) administrative offices of the Indian health system. That system consists of more than 500 health care sites and 12 Area Offices in 39 states. The NDW is managed by the IHS National Patient Information Reporting System (NPIRS). The data in the NDW are provided by government and commercial health care information systems that are primarily transaction-based systems used at the local level to support the provision of patient care; and from other specified sources (e.g., IHS Fiscal Intermediary, Social Security Administration). NDW data include demographic data, third-party eligibility information, patient-based clinical data, and encounter-based clinical data.¹⁵ Over 90% of NDW data comes from local IHS and tribal sites that use the RPMS (Resource and Patient

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Management System) as their IT system.¹⁶ Some data come from tribal sites that use other commercial IT systems.

To facilitate access to targeted information within the NDW, the IHS Environmental Health Division established a Notifiable Disease and External Cause of Injury (NDECI) data initiative, or “data mart” in 2007 that contains data and analytical information derived from the NDW. Permission to search this data mart was obtained from CDR Celeste Davis, NDECI Project Manager and Director of Environmental Health Services for the Portland Area.

We searched the NDW data by fiscal year for all encounters involving patients ages 50 years and older. All the counts were based on distinct integrity identity numbers, which refer to distinct patients. The age, gender, and highest number of prescriptions provided at any single outpatient encounter during the fiscal year were recorded for each eligible patient. No patient identifiers were collected.

Permission to publish this manuscript was obtained from the National IHS Publication and Review Committee.

Results

In FY 2009, nearly three-quarters (73%) of the 113,330 individuals 50 years or older in the NDW received at least one prescription (Table 1). Forty-three percent of the patients received four or more prescriptions during at least one medical encounter; 24% received seven or more prescriptions; and 13% received ten or more. Women were somewhat more likely to receive multiple medications than men: 43% of women versus

39% of men received four or more prescriptions, for example ($p < .01$). Individuals 65 years and older were somewhat more likely than persons 50 - 64 years of age to receive multiple medications: for example, 45% in the older group versus 41% in the younger received four or more prescriptions ($p < .01$).

Discussion

The high proportion of older adults in the NDW receiving multiple prescriptions warrants attention from IHS and tribal medical providers. One quarter of patients 50 years and older received seven or more prescriptions during at least one medical encounter (not involving a hospitalization) in FY 2009.

This proportion is likely to be a serious underestimate for several reasons. The maximum number of prescriptions for each individual is based on a single medical encounter. A person with a maximum of five prescriptions on one visit might return a month later for an additional three medications. The person would be counted as having a maximum of five, not a total of eight. The counts do not include prescription medications from sources outside the IHS RPMS network, such as other medical providers, pharmacies, or even relatives and friends.¹⁷ Potentially hazardous, non-prescription items (including over-the-counter medications, supplements, vitamins, and herbal remedies) also are not reflected in the total.

Our study illustrates the value of the NDW as a source of important clinical, administrative, and public health data. One

Table 1. NDW data: Maximum number of prescriptions (Rx's) at a single encounter, by age group and gender, FY 2009. (Run on June 14, 2010; excludes hospitalizations)

	Number of individuals in user population	Percent with 1 or more Rx's	Percent with 4 or more Rx's	Percent with 7 or more Rx's	Percent with 10 or more Rx's
Males					
Males 50-64	48,910	71%	37%	19%	9%
Males 65-74	17,101	72%	43%	26%	14%
Males 75 +	9,368	70%	41%	25%	13%
Subtotal	75,379	71%	39%	21%	11%
Females					
Females 50-64	73,321	75%	44%	23%	12%
Females 65-74	24,393	76%	49%	30%	18%
Females 75 +	15,616	72%	45%	27%	15%
Subtotal	113,330	75%	45%	25%	14%
Total	188,709	73%	43%	24%	13%

limitation of this study is that although the NDW captures most, it does not capture all, medication "encounter" records involving IHS and tribal health care providers. The IHS Director requires that all IHS and all compacted or contracted tribal sites submit individually-identifiable registration and encounter data to the NDW for resource allocation and other purposes.¹⁸ However, encounter-associated medication data are not required. Encounter-related medication data are routinely submitted by those IHS and tribal sites using RPMS, and a few other tribal sites that use commercial IT packages. Together, these account for 90 to 95% of all encounter records. Also, NPIRS includes data from non-AI/AN patients, such as family members of IHS employees, spouses of tribally-enrolled persons, or community members with third-party or private pay coverage. We chose not to exclude these records in order to provide a broader picture of polypharmacy among older adults receiving care from IHS and tribal providers. Other data issues relevant to the use of RPMS for population analysis are discussed in an earlier *Provider* article by Stanley Griffith, MD, Medical Informaticist and Program Manager for NPIRS from 2002 until July 2010.¹⁹

Prescriber education and medication reviews are the most commonly studied interventions to address polypharmacy.^{1,20,21}

A 2007 review of controlled trials involving these approaches found that "all studies reported reductions in medication use among patients."⁸ Other strategies to address polypharmacy in older adults include home visits to identify actual medication use, geriatricians' services, policies mandating medication assessments, multidisciplinary teams (e.g., including primary care physician, pharmacist, nurse, social worker, and geriatrician), and multi-faceted approaches involving several simultaneous interventions.^{3,8,9,22,23}

Initiatives to address polypharmacy have been implemented in several states, managed care organizations, and VA medical centers.²⁴ Medication assessments can be tied to annual geriatric exams,²⁵ hospital discharge, or enrollment in medical entitlement programs such as Medicaid and Medicare.^{7,23} Enhanced computer systems can reduce polypharmacy by maintaining current and complete medical records, sharing prescription information among providers, and flagging potentially hazardous drugs and drug interactions.^{8,22,26-28}

Polypharmacy is but a single dimension of potentially hazardous prescribing practices. There is no rigid number of medications that automatically places a patient at risk. For older patients who have suffered a fall, for example, the American Geriatrics Society recommends that "particular attention to medication reduction should be given to older persons taking four or more medications and to those taking psychotropic medications."²⁰ Although there are no randomized controlled studies of manipulation of medication as a sole intervention, reduction of medications was a prominent component of effective fall-reducing interventions in community-based and long-term care multi-factorial

studies.²⁰ On the other hand, fifteen unique prescriptions within 180 days for a fee-for-service Oregon Health Plan patient prompts a medication review for authorization of payment.²⁴

Patients will continue to need multiple medications to treat complex disorders and co-morbidities, as well as for preventive care. More research is needed on interventions to assist patients in managing multiple medications. These might include technologies to dispense medications at the appropriate dosages and times; home visitations to monitor adherence; and enhanced patient education regarding the appropriate usage, dosing, and indications for all medications. There are also excellent consumer drug information tools on the Internet. For example, AARP offers a "personal medication record" that can be completed by a patient, caregiver, or visiting medical worker.²⁹

Under the Health Care Reform legislation, medication assessments will be required annually for all Medicare Part D beneficiaries. The assessments must be conducted by a "qualified" individual, such as a pharmacist. Presumably, potentially hazardous prescribing practices will be flagged and prescribers notified. It is vital for clinicians to balance the risks and benefits of any modification of medication regimens. For example, discontinuation of medications can lead to disease exacerbations and hospitalizations. Some medications require tapering and close monitoring. In all cases, the aim is to avoid inappropriate prescribing and to "ensure that polypharmacy is minimized and safety for patients is maximized."¹

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Acknowledgements

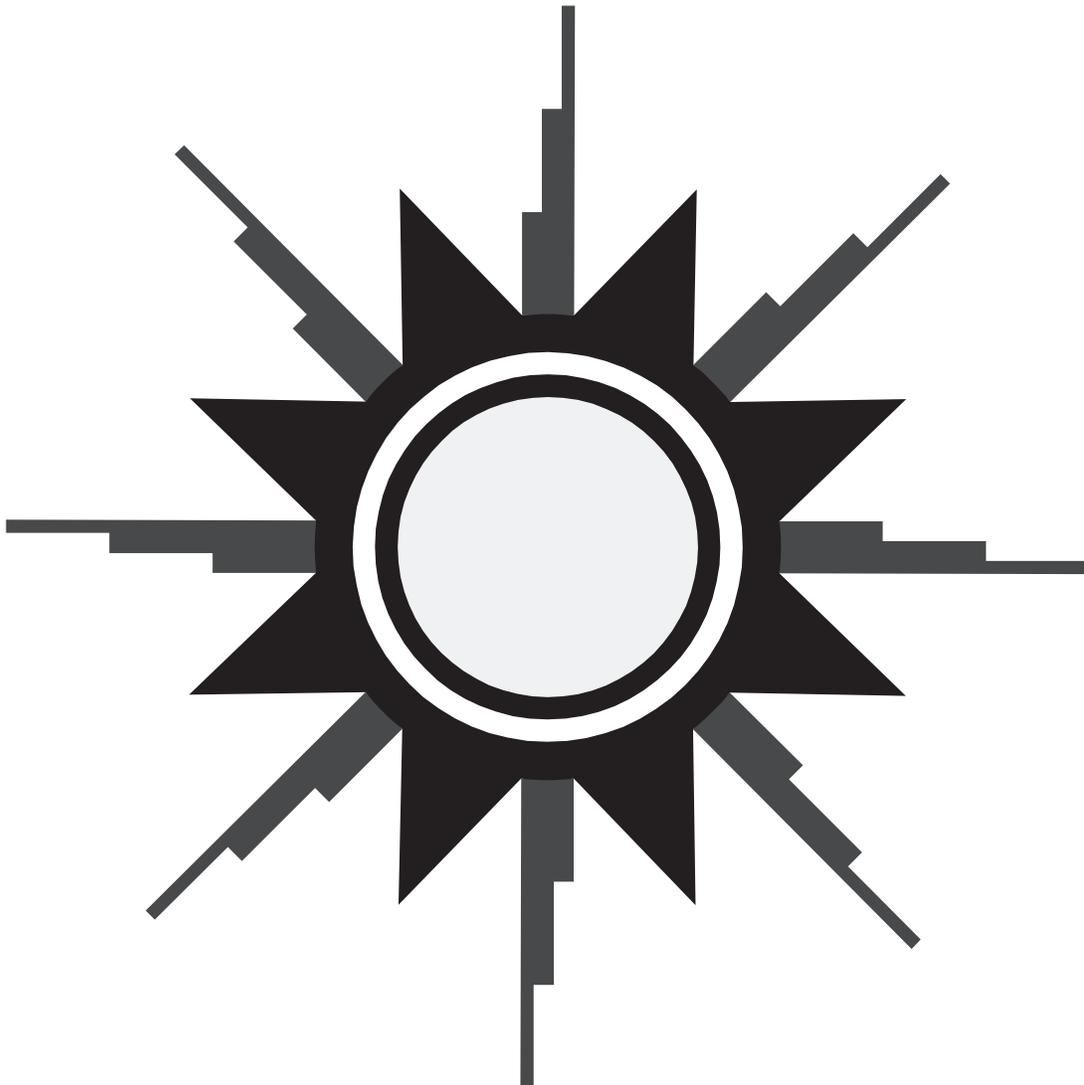
We are very grateful to CDR Celeste L. Davis, REHS, MPH, NDECI Project Manager, Nancy Bill, MPH, IHS Injury Prevention Program Manager, Candace Jones, MPH, Office of Clinical and Preventive Services, and Michael Gomez, Program Manager, IHPES, for facilitating access to the NDECI data; Clint Krestel, Inpatient Pharmacy Supervisor, Northern Navajo Medical Center, for encouragement and support; Katherine Sims, MLIS, for her skillful editing of the manuscript; Dr. Stanley Griffith, IHS Medical Informaticist and former NPIRS Program Manager, for his suggestions, guidance, and review of the manuscript; and Bruce Finke, MD, and Nancy Bill for their leadership of the IHS Elder Falls Prevention Initiative.

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Improving Continuity of Care through Care Team Integration, Empanelment, and Open Access Scheduling at Dena'ina Health Clinic

Josh J. Huhndorf, Project Coordinator, and Tim Scheffel, DO, Medical Director, Dena'ina Health Clinic, Kenai, Alaska

One of the four priorities of the Indian Health Service is to improve the access to and quality of care for Alaska Native and American Indian beneficiaries. Patients with a designated health care provider and care team can build an effective relationship, and that results in higher quality of care; however, access barriers can undermine that relationship. Development of care teams, empanelment of patients and their families to those care teams, and advanced access scheduling can, if implemented properly, improve continuity of care and provide the level of access necessary to deliver higher quality care. This has been the goal of Dena'ina Health Clinic, and this article describes the journey we are taking to create the relationships that are at the heart of high quality health care.

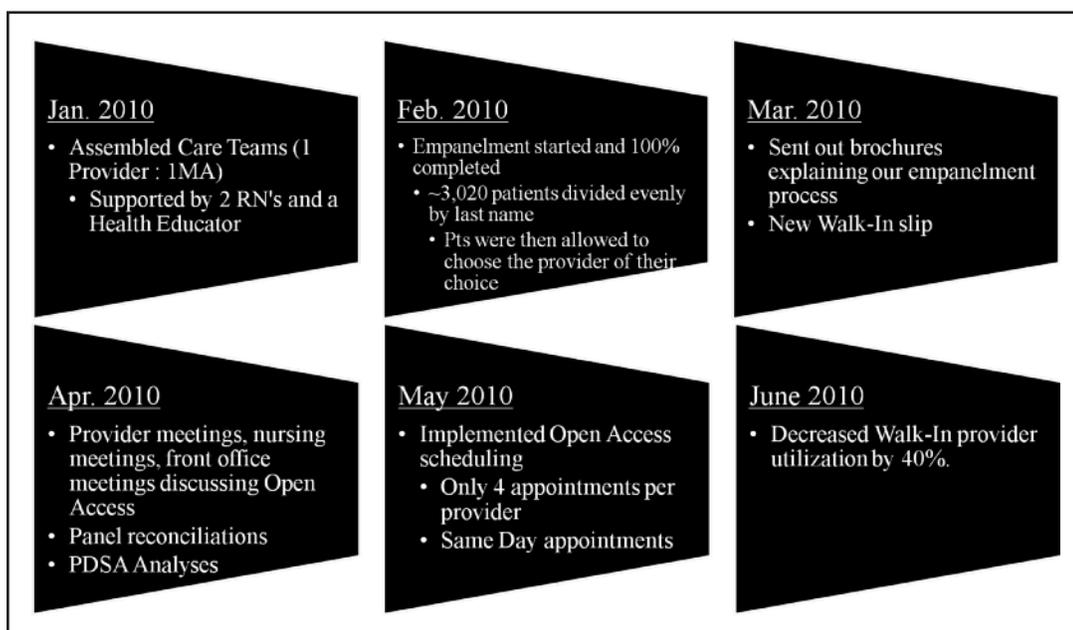
Dena'ina Health Clinic has 2,700 active patients, three FTE providers, and four nurses. In previous years the clinic provided mostly episodic care, but from January to June 2010 we made substantial gains in transitioning to the planned care model by implementing completely empanelled care teams and open access scheduling.

Our process is described in Figure 1. The first step was to organize our clinic practice into three care teams. Next we empanelled patients to these care teams by dividing our patient population into three even quantities, which were distributed alphabetically by last name. Patients were allowed to override the assignment and change to a provider of their choice. The electronic health record was queried to determine the volume of empanelled patient visits per month, and patients were identified by their designated provider panel in the electronic health record. Continuity was determined by calculating the ratio of the total number of patient visits per panel and the number of patients seeing their empanelled provider.

We monitored continuity of care and visit volume from January to June 2010, reporting results to the care teams regularly. Continuity of care for the care teams ranged between 18% and 45% in January. In June, continuity of care ranged between 71% and 83%. The overall increase in continuity over the six month period was 121%. During that same period total patient volume fell by 16%. See Table 1 for detailed results.

The rapid increase in continuity demonstrated in Table 1 is attributable to complete care team empanelment and advanced

Figure 1. Steps taken to increase continuity of care



access scheduling. We see this trend beginning with the point of complete empanelment (February) and accelerating with the implementation of advanced access scheduling (May). During this same six-month period, utilization of the overflow walk-in provider decreased by 40%, suggesting that the improved continuity with the care team did not come at the cost of access to care. We also note an inverse correlation between the continuity trends and the overall patient volume. While we suspect that the decreased visit volume is the result of seasonal variation or improved continuity, we find it remarkable that, regardless of monthly demand fluctuations, the continuity figures indicate that patients are being seen by their appropriate provider at an increasing rate.

Total empanelment alone does not resolve all continuity and access issues. We observed a disparity in provider availability when schedules completely filled days in advance, resulting in a spill-over of excess daily panel volume to other providers, thus reducing our continuity rates. The implementation of advanced access scheduling opened up appointments for same day access, significantly diminished our no-show rate, and increased our overall availability of appointments. In order for this to work, we had to limit the amount of appointments scheduled in advance to four per provider, with more permitted for inordinate circumstances.

Overall we are very pleased with the increased continuity and access to care that these changes have brought to Dena'ina Health Clinic and believe that the strengthened relationships that have resulted build a strong foundation for health.

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Table 1. Analysis of measured continuity

Care Team A	#Pts	#Panel Visits	Continuity	% Jan to June
January	209	80	38.28%	117.45%
February	213	88	41.31%	
March	209	123	58.84%	
April	198	130	65.66%	
May	163	103	63.19%	
June	167	139	83.23%	
Care Team B	#Pts	#Panel Visits	Continuity	% Jan to June
January	228	103	45.18%	58.43%
February	204	102	50.00%	
March	239	147	61.51%	
April	257	145	56.42%	
May	230	153	66.52%	
June	197	141	71.57%	
Care Team C	#Pts	#Panel Visits	Continuity	% Jan to June
January	157	29	18.47%	284.98%
February	151	35	23.18%	
March	171	96	56.14%	
April	173	108	62.43%	
May	129	87	67.44%	
June	135	96	71.11%	
Overall Pt Volume		Overall Continuity Increase		
January	594	121.65%		
February	568	Overall Volume Increase		
March	619	-15.99%		
April	628			
May	522			
June	499			

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

IHS Child Health Notes

Quote of the month

“The white man knows how to make everything, but does not know how to distribute it.”

Sitting Bull

Articles of Interest

Clinical Report - Head Lice: Barbara L. Frankowski, MD, MPH and Joseph A. Bocchini Jr, MD, and the AAP Council On School Health and Committee On Infectious Diseases

<http://aappolicy.aappublications.org/cgi/reprint/pediatrics;126/2/392.pdf>

Head lice infestation is associated with limited morbidity but causes a high level of anxiety among parents of school-aged children. This clinical report gives an exhaustive and interesting summary of head lice, from epidemiology through treatment.

Head lice are common and present across the world in all socioeconomic groups. In school aged children, the prevalence is usually estimated to be about 13% but can range from a low of 2% to nearly 100% depending on the study. Hair length or brushing do not influence infestation but can affect the load: in countries like the US where daily hair brushing is common, most individuals have fewer than a dozen live lice. Cultures with different hair grooming practices often have hundreds of live lice.

Most lice are still susceptible to commonly used agents such as Nix®, but there are areas with resistance, and other treatment modalities are reviewed. Many natural products are also on the market, but they are not licensed by the FDA and are not required to demonstrate efficacy. Occlusive agents such as petroleum jelly, mayonnaise, and olive oil have been used and are probably effective, but have not had any rigorous trials. There is a commercially available dessicator marketed as LouseBuster®, which is shown to be effective but is expensive. Flammable agents such as gasoline and kerosene have been used in the past, but are not recommended given their potential for injury.

Most importantly, the report addresses school attendance. The authors note that a child with head lice infestation has usually had lice for over a month by the time a diagnosis is made. There is no reason to remove a child from school when diagnosed. Similarly, children should not be excluded from school based on a “no-nit” policy. Children with head lice should be encouraged to be treated with an OTC treatment and

allowed to attend school.

Editorial Comment

This policy may prove useful in working with schools to develop reasonable policies on head lice that will minimize days kept out of school.

Infectious Disease Updates

Rosalyn Singelton, MD, MPH

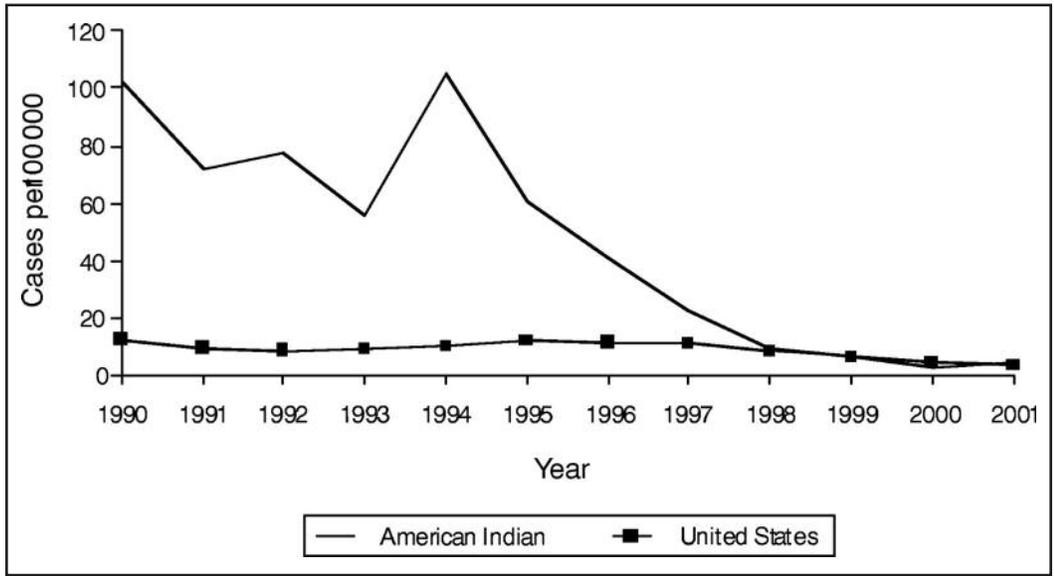
Control of Hepatitis A in American Indian/Alaska Native people: A reason to celebrate!

During the 1950s through 1990s, the highest hepatitis A infection rates in the US occurred on American Indian reservations and in Alaska Native (AI/AN) communities, where periodic community-wide hepatitis A epidemics came every 5 - 10 years, resulting in thousands of persons developing icteric hepatitis. The lifetime risk of hepatitis A infection in these communities approached 90%. The public health system was powerless to halt epidemics – immune globulin was costly and ineffective in controlling outbreaks.

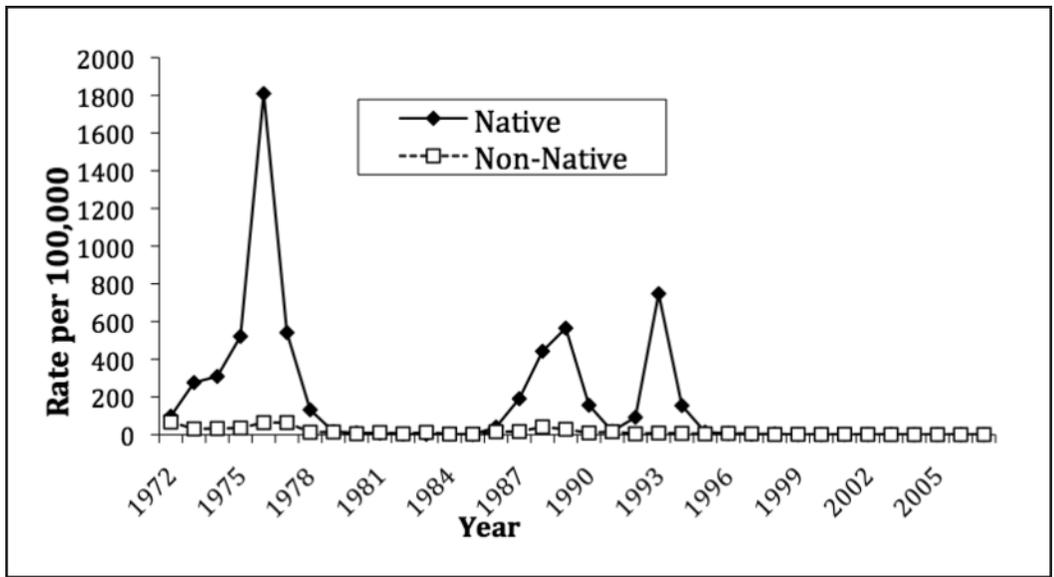
The scene changed when highly effective hepatitis A vaccines became available in 1996. AI/AN children in high risk communities were included in the first recommendations for routine hepatitis A vaccination. During 1997 - 2001, hepatitis A infection rates among AI/AN people nationwide declined 20-fold from rates of 41.0 to 104.9 per 100,000 in 1990 - 1996, to a rate of 5.2 per 100,000 in 2001.

A recently published paper chronicles the Alaskan hepatitis A story. Among Alaska Native people there was a 99.9% decrease in hepatitis A infection incidence, from 243 per 100,000 in the pre-licensure period to 0.3 per 100,000 in 2002 - 2007. This dramatic success in control of hepatitis A infections was achieved with vaccination of children only, demonstrating the key role that children play in transmission of hepatitis A infection.

Hepatitis A incidence in American Indians/Alaska Natives and the general United States population, 1990 - 2001. From Bialek et al. Am J Public Hlth. 2004;94:996-1001



Hepatitis A incidence in Alaska Native and non-Native people, 1972 - 2007. From Singleton et al. Vaccine 2010; Jul 14 epub



Recent literature on American Indian/Alaska Native Health

Jeff Powell, MD, MPH

Toward Understanding Suicide Among Youths: Results From the White Mountain Apache Tribally Mandated Suicide Surveillance System, 2001 – 2006. *Am J Public Health.* 2009;99:1840–1848. doi:10.2105/AJPH.2008.154880

This month's review again focuses on suicide risk – this time from surveillance and intervention development perspectives. Reasons for choosing this article extend beyond the briefest of “headlines” from this article – describing more difficulties for AI/AN youth. Sadly, many will not be surprised to learn that AI/AN youth were shown to have 10- to 15-fold higher rates of suicide completion and suicide attempts compared to non-native US youth. This fact is important and provides further motivation for robust program development. The most compelling lessons from this article, however, relate to the use of community based participatory research (CBPR) and the process of involving White Mountain Apache Tribal leadership, knowledge, and resources in the study process.

To summarize, the article describes how researchers and tribal leadership worked together to implement a White Mountain Apache tribally mandated suicide surveillance system. This partnership allowed the use of a unique approach to surveillance. This study implemented community-wide surveillance for suicide completion and suicidal behavior. The majority of studies previously available strictly used clinically available data gathering. The community wide surveillance included data gathering from the breadth of personnel in the White Mountain Apache community: from schools, clinics, law enforcement, to churches and tribal programs. In the process, the study extensively utilized community paraprofessionals to not only gather information, but to communicate study findings to community members, and to provide case management and follow-up of identified at-risk individuals.

Because of the CBPR process, the findings from this study include multiple levels: quantitative findings that are scientifically validated and well presented in the article, and qualitative findings that are “community validated” by the White Mountain Apache Tribal Guidance Council for Parents and Youth. The authors of this article nicely describe that the primary purpose of this published article is the quantitative findings – as requested by tribal leadership – and out of respect for the White Mountain Apache tribal community.

As for the key quantitative findings, this article highlights a number of important dynamics regarding suicidal behavior in one AI/AN community. The findings were compared to other existing literature focusing on AI/AN communities and were shown to be consistent with what is otherwise available. Some of the interesting dynamics found in this study related to age and gender distributions, method, and identified precipitant. Compared to US-wide studies, the age and gender distributions

showed some differences. This study was consistent with other AI/AN focused studies in that the age distribution of suicide completions was very young: peak yearly rates/100,000 population were found between ages 15 - 19 and between 19 - 24. The male predominance of suicide completions was even more intense in this study compared with other studies. In addition, males had equivalent rates of attempts with females. This is in distinction to many other studies in which females have approximately twice as many attempts as males (and typically have fewer completed suicides). Analysis of methods used was also consistent with other AI/AN focused studies: most suicides were completed by strangulation or suffocation, and not by use of firearms. Finally, the study text describes that the most common precipitating factors were family conflict and family dynamics.

Because this study was developed with CBPR principles, the study structure allowed further community based discussion of their findings and development of interventions to help address the crisis of youth suicide. Out of these discussions, the article describes that the findings described above were used to support tribal decision making processes. The White Mountain Apache community chose, for example, to focus interventions on in-home paraprofessional interventions based on curricula elements drawn and adapted from the American Indian Life Skills Development Curriculum. The exact interventions have been molded by community discussion and tribal leadership discussion.

In summary, this article provides an example of research and community partnership that is helping one community move closer *both* to further understanding the dynamics of youth suicide and to effective, respectful, and culturally appropriate prevention programs.

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MEETINGS OF INTEREST

Advancements in Diabetes Seminars

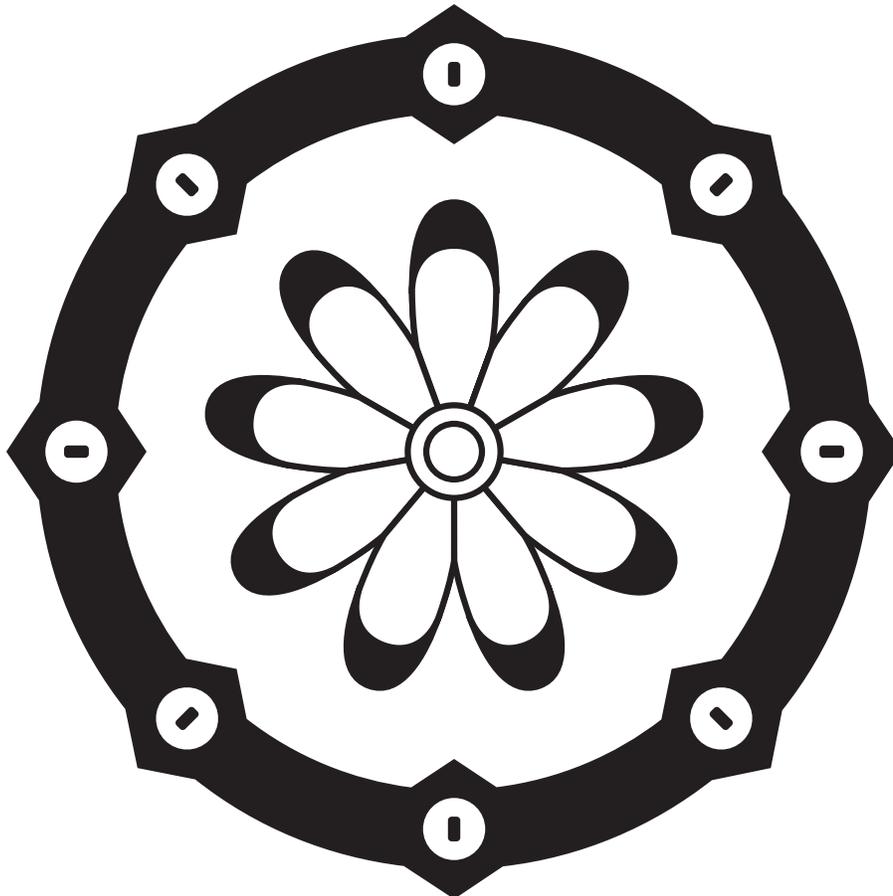
Monthly; WebEx

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.

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'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, 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@jhs.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)

Family Practice Physician Yakama Indian Health Center; Toppenish, Washington

The Yakama Indian Health Center is recruiting for two positions in family practice, pediatrics, or internal medicine to join our staff of four physicians, three ARNP, and two PA-C. We are a modern facility with on-site pharmacy services, an open access appointment system, electronic health records, a moderately busy outpatient practice, and a user population of 10,000 members of the Confederated Tribes and Bands of the Yakama Nation.

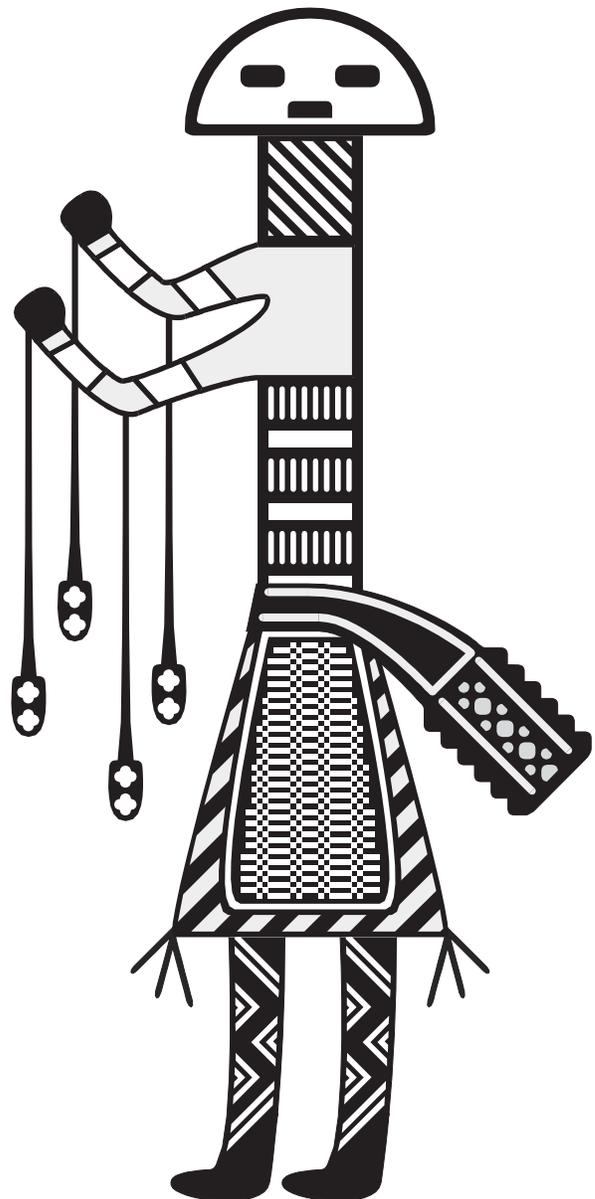
Located 150 miles southeast of Seattle in the Yakima

Valley, Toppenish has a lot to offer both the outdoor enthusiast and the urban sophisticate. Hunt, fish, or golf during the day, then attend a Broadway musical at the Capitol Theatre in Yakima. Skiing at White Pass or Crystal Mountain is only an hour away, and the Yakama Nation Museum and Cultural Heritage Center in downtown Toppenish stays open seven days a week.

Base salaries depend upon experience, and range from \$155,000 to \$177,000. Other benefits may include loan payback, retention or recruitment bonuses, and moving expenses. For more information, please call our Clinical Director, Rex Quaempts, or our Management Analyst, Pam Leslie at (509) 865-2102. This advertisement will stay open until both positions are filled. (7/10)

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 of whom 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 the IHS. Our clinic primarily serves the Confederate 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. (4/10)



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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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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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