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Advanced Pharmacy Technicians: A Prescription for Success

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Background

The Indian Health Service (IHS) has played and continues to play a pivotal role in the development of innovative health services and clinical pharmacy practices nationwide. The IHS funds health care at 138 IHS direct care facilities, 348 tribal facilities, 33 urban Indian health facilities and 166 Alaska villages, which collectively serve two million of the country's 3.4 million American Indian and Alaska Native (AI/AN) population. This leaves 41% of the AI/AN population with limited or no access to Indian health care. In addition, only 237 of these 685 health care locations have pharmacies.

Dr. Yvette Roubideaux, IHS Director, defined the quality of and access to patient care as key Agency objectives for the AI/AN population, through Improving Patient Care (IPC) initiatives and collaboration with other federal agencies.

In November 2008, CAPT Chris Watson set a challenge for IHS pharmacy practice: to transition all IHS pharmacists into full-time clinical roles, where pharmacists are the primary care providers for patients with chronic stable conditions. The challenge requires the maximization of pharmacist and technician effectiveness and training. To this end, CAPT Watson charged the Indian Health National Pharmacy Council with selecting and convening a taskforce to map out a course of action.[1]

Understanding that improving access to care will either require more health care professionals to cover rural and remote locales, or current resources and advanced technology will need to be used together in ways that have never been routinely considered before, the Indian Health National Pharmacy Council Taskforce recognized that the Agency's

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objectives and the concept of moving pharmacists into full-time clinical roles are complementary and can work synergistically.

At their November 2008 meeting, the taskforce set four major objectives: 1) find a mechanism to decrease the pharmacist's dispensing workload; 2) integrate pharmacists into the IPC model and programs; 3) publish an ideal outpatient clinical pharmacy model; and 4) achieve recognition and compensation for IHS pharmacists cognitive/clinical services.

The report to the Surgeon General entitled *"Improving Patient and Health System Outcomes through Advanced Pharmacy Practice. A Report to the US Surgeon General"*[2] was being co-authored and championed by the USPHS Chief Professional Officer Rear Admiral Scott Giberson during this time. Admiral Giberson was an IHS pharmacist for nearly 15 years. The taskforce saw that its objectives aligned well with the report's concepts and that increasing pharmacist compensation would be the long-term goal to facilitate and sustain clinical pharmacy services. In the short term, development of solutions that decreased pharmacist dispensing workloads would allow pharmacists to provide clinical and prescriptive services. To meet our collective objectives, service delivery must be redefined and expanded, including the roles of pharmacists and technicians.

Clinical pharmacists in IHS have accepted advanced roles and responsibilities for over a half a century. IHS pharmacy seeks to move pharmacists into advanced roles full-time. Moving technicians into roles where they both fill and check prescriptions has been done by the Department of Defense (DoD) for many years, but this practice has not migrated to other health care sectors . . . yet.

The taskforce saw technicians as an integral part of moving the profession into the future. Providing pharmacy technicians with advanced education and skills, making them "super techs," will allow them to be utilized to a much fuller extent within and outside the pharmacy, including "tech check tech" dispensing, telepharmacy, and telehealth. The result will be a more sophisticated and efficient pharmacy practice, which will allow the IHS clinical pharmacy model to more fully develop, all while increasing access to care and improving patient outcomes.

But the taskforce recognized that in order to meet the Agency objectives and move IHS pharmacists into full-time clinical roles, the taskforce would have to develop a plan that could handle increasing prescription workloads, budgetary constraints, staffing shortages, and shrinking pharmacist clinical time, by finding a means of keeping pharmacists in control of the dispensing function without pharmacists filling prescriptions. This approach will allow IHS pharmacists to transition to full-time clinical and prescriptive duties. The plan was two-pronged: use the Veteran's Administration Consolidated Mail Outpatient Pharmacy (CMOP) program to fill prescriptions; and use the DoD "tech check tech" training program to raise the level of pharmacy technician training to where technicians could fill prescriptions, and supervisory technicians could check their work like the DoD does.

To help address these current challenges, the IHS reached out to the VA CMOP program and the DoD Medical Education Training Center (METC) in 2008. The IHS and the VA set up the first IHS-VA CMOP pilot in Rapid City, South Dakota in late 2009. In September 2011, three practicing IHS technicians (Deb Rethwisch, White Earth, Minnesota; Teresa Tsinnie, Kayenta, Arizona; and Lisa Wilson, Rosebud, South Dakota) were invited by METC to attend the DoD pharmacy technician school to obtain the same 12-week training that enlisted personnel receive before reporting to their independent duty stations.

METC Program

The METC is a state-of-the-art training facility for all DoD pharmacy technicians (among other health disciplines) that opened in summer 2010, and is located at Fort Sam Houston, San Antonio, Texas. During the 12-week training course, students receive training in therapeutics, advanced pharmacy calculations, pharmacy administration, supply, compounding, and patient consultation, and then they receive practical pharmacy lab experience. The METC pharmacy technician training curriculum has been accredited by the American Society of Health-System Pharmacists (ASHP). At the completion of the basic course, students return to their respective services for additional experiential training specific to their job description, which can include training for independent duty on ships, cutters, or in field hospitals. Once training is complete, the technicians are highly encouraged/required (depending on branch of service) to take the Certified Pharmacy Technician (CPhT) board exam.

In certain situations within the DoD, enlisted pharmacy technicians dispense medications independently from pharmacists. This most often occurs in operational or deployed settings where a pharmacist is not assigned. These personnel must complete extensive additional training to ensure the safety of their patients. Uniform training between the military branches has become standard to ensure the success of inter-agency operation.

By participating in the METC program, the IHS pharmacy technicians gained advanced skills that will allow them to be utilized in innovative ways. One of the goals of this program is to minimize pharmacists' time on the filling line to allow more time working in a clinical setting. A separate METC "tech check tech" model allows advanced technicians to check other technicians' work before the pharmacist does the final check while dispensing the medication directly to the patient. Another creative use for these technicians would be to staff pharmacies equipped with automated dispensing cabinets and teleconference equipment, which can be used to serve very remote populations. Remote technicians could be taught the patient physical assessment skills necessary to obtain additional information that the clinical pharmacist may need to adjust therapy.

To quote CAPT Chris Watson, "the METC program completes the first step toward the achievement of one of the IHS pharmacy program's goals: developing new models of pharmaceutical care that utilize technicians and pharmacists at their highest level of training."[3]

The Santa Fe Model

One predominant structural barrier to quality health care in Indian health is excessive patient wait times. The average time from the moment the patient presents to the pharmacy until the patient sees the pharmacist is 20 - 30 minutes. In some locations waiting times can be measured in hours. This can be attributed to inadequate staffing, inefficient queuing systems, and inefficient internal systems.

The Santa Fe Indian Hospital pharmacy has implemented a method to reduce patient waiting times. When a patient presents to the pharmacy, he/she is queued directly to a pharmacist in a counseling room. The pharmacist assesses the patient, ensures appropriateness and accuracy of the patient's medication orders, interacts with the prescriber as necessary, and finishes the order and sends the electronic prescription to be filled. While the prescriptions are being filled, the patient is counseled on medications by the pharmacist. The pharmacy technicians and the pharmacist in the pharmacy complete the orders and deliver the medications to the pharmacist in the counseling room. The counseling pharmacist does a last check and show-and-tell of the medications with the patient, which completes their pharmacy visit.

The Santa Fe system has reduced the average waiting time at the pharmacy from 20 minutes to one minute (a reduction of 95%), and the longest waiting times from 60 minutes to 11.8 minutes (a reduction of 80%). The efficiency of the department has drastically improved. Patients who wish to pick up their medications at a later time are removed from the queue of orders; this step prioritizes those patients who are waiting for their medications. In addition, the number of return-to-stock (RTS) prescriptions has been reduced from 3,500 to 300 (a reduction of 91.5%) prescriptions per year, reducing the pharmacists' yearly work load by 20%.

In line with the National Pharmacy Council Taskforce goals, the addition of advanced pharmacy technicians to the Santa Fe model would likely increase efficiencies and reduce waiting times even further, by making all pharmacists available for clinical duties.

Alaska Native Medical Center Telepharmacy Model

The Alaska Native Medical Center (ANMC) and its 12 outlying health clinics provide health care services to over 9,000 Native and non-Native patients living in the rural Anchorage Service Unit, which covers over 107,400 square miles in south-central Alaska. Few roads exist over much of this area, and transportation is often limited. Patients residing in areas not accessible by roads are isolated from health facilities by extreme distances, geography, and weather. Patients are cared for by Community Health Aides (CHAs), who are local villagers who have attended training to provide patient care to the local AI/AN population.

Prior to ANMC's management of the rural pharmacies, non-pharmacy personnel (nurses, physicians, and CHAs) were responsible for maintaining the pharmaceutical inventory. Medication accountability problems were prevalent, especially for controlled substances, and there was much waste due to overstock and expired medications. Additionally, there was no pharmacist prescription review process as required by The Joint Commission.

ANMC addressed these challenges by piloting a program that utilizes PickPoint™ automated dispensing cabinets within remote telepharmacies. The remote telepharmacies are connected to the main ANMC pharmacy via the Internet, providing remote video and audio conferencing with a pharmacist for patient medication consultation. The prescriptions are processed by the pharmacist, and then sent electronically to the automated dispensing unit in the remote pharmacy. Authorized clinic personnel (nurses, physicians, CHAs) then retrieve the medications from the machine, use barcode technology to verify the medication, and dispense the medication to the patient on-site. Inventory management is performed by the central pharmacy in Anchorage; medications are pre-packed and bar-coded to be mailed via the US Postal Service to the remote pharmacy. Authorized personnel then load the medications into the dispensing unit using the barcode system.

In the 13-month period studied after ANMC's pilot program began (October 2005 -November 2006), there were 990 documented pharmacist consultations and interventions (4% of all prescriptions). With the central pharmacy managing the inventory, there was a reduction of wastage due to overstocked and expired medications, saving approximately $2,000 per month. More importantly, patients in remote locations finally had access to a pharmacist.

The telepharmacy model utilized by ANMC would be useful in the remote areas of the continental US, where tribes and villages are far removed from IHS health care facilities. In many of these locations, even the use of CMOP would be limited by the lack of reliable mail service, and the lack of patient addresses. Having a local pharmacy will increase patient access to care and increase medication adherence.

Pharmacy technicians assigned to these locales could attend the advanced METC training program to gain basic patient assessment skills in addition to the METC basic course. Upon completion, the technicians could act as the pharmacists' eyes, ears, and fingers to assess vital signs, weight, blood glucose levels, International Normalized Ratios (INRs), other laboratory values, and any other basic parameters that would assist the pharmacist in providing patient-centered care.

Claremore Indian Hospital

The Claremore Indian Hospital continues to be at the forefront of innovative pharmacy practices and services.

Claremore has developed a number of nationally recognized advanced pharmacy practice models and trainings, including a national anti-coagulation training program, a pharmacist-based congestive heart failure clinic, and a pharmacist-based lipid management clinic.

Pharmacy Technicians at Claremore serve in a unique role in which they are given the training and authority to hand medications to the patient and provide basic patient consultation for designated drug classes (e.g., for refills of birth control pills, thyroid medication, anti-hypertensive medication, antibiotics for acne, or for parents with several children needing multiple prescriptions of amoxicillin). The pharmacy has a detailed yet efficient method of on-the-job training (OJT) to prepare the technician for advanced duty. The technician refers all clinical decisions, problems, or issues to the clinical pharmacist for intervention.

The training for these technicians includes time dispensing to patients along side a pharmacist, an extensive review of pharmacy policies and procedures, annual competency tests that cover pharmacy calculations, Health Insurance Portability and Accountability Act (HIPAA) training, emancipation training, and review of patient interactive skills. If a technician cannot perform as expected during the first attempt at dispensing medications to a patient, he/she is removed from the dispensing duty and allowed to try again after three months. The technicians also continue to perform technical roles within the pharmacy, including managing pharmacy automation, pre-packing medications, performing IV-admixture, and inventory control.

Claremore's training model provides a sound and proven system for assessing technician competencies and determining the appropriateness of job duties. Their training model would be beneficial for entry level technicians which, along with other OJT and experience, would prepare them for future METC training.

Impact/Expected Outcomes

The primary goal of having advanced pharmacy technicians within the IHS is to allow technicians to work at their highest level, allowing pharmacists to do the same. If telepharmacy is implemented in areas where no pharmacy has existed before, IHS service areas and populations will be expanded. Patient satisfaction will increase, which will lead to an increase in utilization of the health care system in general, and will increase quality of care. These outcomes have been measured in our pilot sites, and all have been previously and intensively studied.[1] In keeping with the Director's initiatives, the Principal Pharmacy Consultant's challenge, and the Pharmacy Task Force objectives, pharmacists will be expected to move away from technical duties and into advanced clinical roles in the very near future. As these types of clinical services become more widely recognized for reimbursement, with the national advocacy of the Chief Professional Pharmacy Officer and third party interventions by the Principal Pharmacy Consultant, revenue generation at sustainable levels is possible. Advanced training and technician functions should also bring higher pay, higher morale, and higher retention rates.

Challenges

The Joint Commission requires prospective review of all outpatient medication orders by a pharmacist. Even though the curriculum for the METC program is accredited by ASHP, the Joint Commission currently does not routinely approve of the practice of technicians dispensing medications. In response, the US Navy has recently developed and implemented a world-wide telepharmacy program similar to that at ANMC. While the telepharmacy aspect of this program may not be an issue as far as accreditation is concerned, the IHS needs to determine the Joint Commission's stance on the practice of technicians checking other technicians on the IHS filling line. We anticipate that since a pharmacist is still the last to check the medications before dispensing, it should be a non-issue.

From a human resources aspect, hiring or relocating current employees for independent duty in remote locations could prove challenging. One way to meet this challenge would be the utilization of Community Health Representatives (CHRs), CHAs or CHA-like individuals in the program. These practitioners would already be established within the community and would already have many advanced practice skills. The individual communities would need to determine how to provide services to their population while the individual is in training.

Within a typical DoD pharmacy, the pharmacists are vastly outnumbered by their technicians; in the Navy, this ratio is roughly 3:1 (412 pharmacists to 1186 technicians as of May 2010). The IHS pharmacies have more pharmacists than technicians. From a clinical standpoint this is advantageous, but problems may arise when technicians are removed for training. Participating sites will need to address the potential disruption of their workflow and take the steps necessary to account for the staff shortage. In addition to considering the cost of the advanced training itself, this may also mean hiring a temporary technician or training other technicians to cover the workload.

The cost of installing and training staff to operate a telepharmacy may be prohibitive for some sites. In the ANMC pilot telepharmacy program, costs amounted to $48,000 per site for equipment, software, installation, training, and service agreements. That program was funded by a two-year grant from Health Resources and Services Administration (HRSA). Potential sites also need to investigate whether reliable Internet connections are available or could be installed for very remote locations that do not currently have them. Pharmacy sites that will serve as the base for telepharmacy operations will need to be identified and provided the necessary staff and equipment to support the satellite telepharmacies.

Each participating site will need to assess their needs and how they wish to utilize their advanced technicians. Each site must draft local policies and procedures that describe new local

technician programs.

Nationally, a series of new advanced technician position descriptions starting at a GS-6 through a GS-8 grade will need to be created and approved.

Conclusion

The use of advanced pharmacy technicians will drastically improve the efficiency of the pharmacy system. This enhancement, along with increased access to care via remote telepharmacy practice and the improvement in pharmacist clinical utilization will have a positive impact on patient outcomes by ensuring high quality pharmaceutical care for all AI/AN patients. IHS Headquarters and participating IHS sites are incredibly excited about our continuing collaboration with the DoD METC program as we move forward with the IHS "super tech" program.

In the report to the Surgeon General, RADM Giberson states, "one of the most evidenced-based decisions to improve the health system is to maximize the expertise and scope of pharmacists, and minimize expansion barriers of an already existing and successful health care delivery model." [4]

The challenge is to get the political decision makers, health care payers, Federal, state, and local governments, and the general public to recognize this fact. Indian health, including the Federal IHS system, tribal health care systems and urban health care programs continue to make an ideal transition platform between Federal pharmaceutical care advances and private sector health care.

Contributors

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Help us Save Money

The federal government is always exploring ways to reduce costs. One recent initiative is an effort to reduce printing expenses. As our readers know, last year we made a transition from an every month print version of *The Provider* to a quarterly print version, thus saving both printing and mailing costs. About 5000 readers still have paper subscriptions.

Although we made this change in the printing schedule, we continued to post the monthly edition of our journal to the CSC website. Currently, about 900 individuals are subscribers to the listserv that notifies them when each monthly issue is posted, and lists the contents of that issue. It is unknown how many readers simply access the website on a periodic basis without relying on the listserv for reminders that the monthly issue is available. It is also unknown how many individuals subscribe to both the print version and the listserv.

As one contribution to the effort to minimize costs, we would suggest to our readers the following: 1) if you have a paper subscription and are no longer using it, or if you know of someone who has left your facility but is still receiving the paper edition, please contact *Cheryl.Begay@ihs.gov* in our office to let her know that these subscriptions can be stopped; 2) if you have both a paper subscription and access to the on-line version, and it makes little difference to you which version you use, you may want to consider stopping the paper version and use the one on-line; and 3) if you are using the on-line version and are not on the listserv, you may want to join (go to *http://www.ihs.gov/provider/index.cfm?module=listserv*), as this provides us with more accurate data about readership.

It is likely that at some point in the not-too-distant future, there will be a mandate to discontinue paper distribution entirely in favor of website publishing. Now might be a good time for our readers to begin this transition.

Please let us know if you have any questions or suggestions.

Benchmarks to Successful Implementation of Pharmacy Specialty Clinics

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Introduction

In the US, 15.7 million adults in 2005 and 6.8 million children in 2006 were diagnosed with asthma. In 2004, 1.8 million emergency department visits, 497,000 hospitalizations, and over four thousand deaths were reported. Additionally, the disease has an effect on school and work, with 12.8 million missed school days and 10.1 million missed work days in 2003.[1,2] Nationally, 7.7% of the general population is affected by asthma, while 4.2% are plagued with asthma exacerbations. According to the Centers for Disease Control and Prevention (CDC), American Indian and Alaska Native (AI/AN) populations have a higher prevalence of both asthma and exacerbations at 9.2% and 5.8%, respectively. AI/AN populations also have a higher percentage of lifetime diagnosis at 12.1% compared to the national average of 11.2%.[3] All of this has occurred despite well-known treatment guidelines.

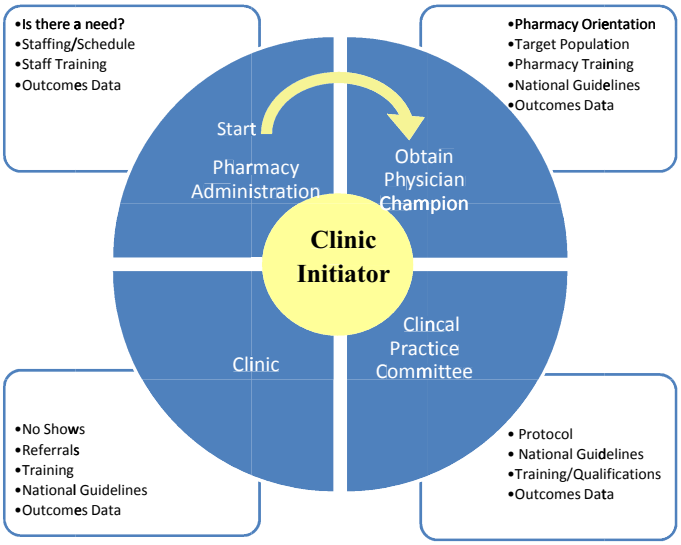
There are extensive published data available regarding pharmacists' roles in various clinics. These data indicate that pharmacists have improved care in a wide variety of settings. Pharmacy successes have been published internationally in cardiac,[4-6] asthma,[7-13] physical assessment,[14] and anticoagulation.[15-21] While these references are by no means the complete list of publications, they demonstrate the value of pharmacists.

Given the practicality and value of pharmacy in clinics, the Northern Navajo Medical Center (NNMC) pharmacy resolved to improve asthma treatment. Several options for asthma care at NNMC were considered. The first option was to provide clinical support for medical staff from within the pharmacy itself. While this option would be quick to implement, it lacked several key elements needed to reduce asthma exacerbations. First, it would require that pharmacists call the provider from the pharmacy after the patient had already been seen. This would provide obstacles, since the patient would have to wait longer to receive medications. Second, the pharmacist would be required to interview the patient at the pharmacy and obtain a full symptom history. Again, this would prolong the time the patient is at the facility as well as repeat the steps taken by the physician. The second option was to create a protocol-driven pharmacy managed clinic with physician oversight. This option was chosen based on its potential to provide specialized care to this group of patients while avoiding the problems of the first option.

The purpose of this article is to provide a stepwise approach that can be applied by a pharmacist wishing to start a specialized clinic. Lessons learned are presented at each step, as well as the approaches used that successfully resulted in a specialized pharmacy-managed adult asthma clinic at NNMC. The examples and advice presented here are based on experience from initiating an asthma clinic but can be applied to any specialty clinic.

A clear plan is essential for the implementation of a pharmacy-managed clinic. This plan should include a starting point, benchmarks to complete, and continued communication throughout the process (Figure 1). Based on experience gained from this clinic, four benchmarks were identified for successful clinic initiation: pharmacy administration, gaining physician support, getting approval from the Clinical Practices

Figure 1. Clinic Initiation Steps, Communication, and Key Points for each Benchmark



Committee (CPC), and the clinic itself. This is not to say, however, that each benchmark represented an opposing force for the initiation of the clinic. In fact, the opposite was true, and general support was judiciously granted by pharmacy administration and many physicians. However, each benchmark required certain key points be addressed before the clinic initiation could move forward. These points with recommendations can be seen in the tables and are expanded on in the text. While the same questions may be asked at different benchmarks, they will be addressed only once in the text unless further explanation is required.

Benchmark: Pharmacy Administration

Before a pharmacy-managed clinic can be initiated, there must be support from pharmacy administration. In the case of the NNMC asthma clinic, pharmacy administration proved to be the biggest supporter, as well as the benchmark with the most requirements to complete. The pharmacy administration at NNMC is open to expanded roles in pharmacy, and quickly gave support for this project. However, administration was well aware of the potential conflicts that could arise later as the clinic moved forward. Therefore, administration made sure that prior to full approval, all key questions had been fully covered. Provided pharmacy administration's full support is given, it can be an extremely useful source of experience to draw upon to provide insight to potential conflicts in the process. See Table 1 for a quick reference.

Key Point: Medication Utilization Evaluation (MUE). Before any clinic is initiated, there must be a need for the clinic to exist. With funding and staffing at a premium at many government facilities, there must to be solid justification to rearrange staffing priorities for a clinic. This can be determined by obtaining baseline data on how patients are currently treated in relation to the published national guidelines. For this clinic, a resident took on the project to perform the MUE. Unfortunately, not every facility has a resident available to perform an in-depth MUE, or the resident may not have time during the residency to take on another project. Several approaches can be used to ease the burden on the pharmacy department and ease the concerns of the pharmacy administration.

First, if the facility has a resident, a MUE is possibly part of the curriculum. At NNMC, all residents are required to complete a MUE and submit a formal report. This resident requirement represents a resource that has historically been associated with useful pharmacy outcomes, especially regarding formulary changes. Second, many facilities have student programs in place. Students are an excellent source of help and are usually eager to assist in projects during rotations. It is important, however, to have clear and concise guidelines for data collection when using students. The guidelines will streamline the process and reduces errors, while making it possible for different students across multiple rotations to participate in the project without jeopardizing the work.

Key Point: Staffing/Schedule. Requesting the pharmacy administration to allocate staff to fill new clinic slots requires the initiator be ready to answer some hard questions. While the pharmacy administration at NNMC supported expansion into a new clinic, it was still the responsibility of the initiator to provide a plan on how this could be accomplished. This can be

Table 1. Recommendations to Answer Pharmacy Administration Questions

Key Points	Recommendation
Is there a need for the clinic?	• Perform MUE; utilize: — Resident(s) — Pharmacy students
Staffing/Schedule	• Demonstrate commitment to clinic — Be willing to staff clinic on scheduled days off — Initially staff all clinic days • Set reasonable clinic hours — Short hours one day a week — Select the slowest day of the week
Staff Training	• Mirror current requirements for staff training in existing clinics • Begin training of new providers only after initiator is fully familiar with current guidelines
Outcomes Data	• Select data that are easily accessible • Keep outcomes data focused

a daunting task when pharmacists are already at a premium. In this case, the question of staffing issues was addressed in a stepwise fashion.

First, the clinic initiator volunteered to staff all clinics for the initial months of operation. This included working on scheduled days off to ensure clinic staffing. This also demonstrated a high level of dedication to pharmacy administration from the initiator. Second, the clinic hours were minimal to reduce the overall burden on pharmacy staffing. The NNMC Asthma Clinic started on Mondays from 8 am to noon. Mondays were historically slower days and made it easier to provide coverage for the pharmacist staffing the clinic. This plan indicated the clinic initiator's willingness to staff the clinic regardless of work schedule and suggested a clinic time with minimal impact on staff.

Key Point: Staff Training. Pharmacy administration will ask at some point how other staff will be trained in the clinic. Most facilities already have some sort of pharmacy-managed clinic in place with details for staff training. The details in existing clinics can be applied to the new one. However, if the new clinic is unique in some way to the pharmacy or Indian Health Service (IHS), further details may be required. Pharmacy administration will focus on when and how pharmacists will be trained. Training requirements are a different issue for physicians and will be discussed further in that section.

Choosing when to train the staff will be a factor of when the clinic initiator is comfortable bringing in new staff. Additionally, pharmacy staffing must be at a level that can support realigning pharmacists from traditional to enhanced duties. The clinic initiator has little control over the latter but full control over the former.

The initiator must be fully familiar with the current guidelines and be able to teach those guidelines. It is recommended that the initiator work in the clinic for at least a month, preferably longer, before bringing in new staff to train. This provides the initiator time to "practice" using the guidelines in actual clinic settings. Only after the initiator has staffed the clinic for a time will they be able to teach those guidelines to new staff.

Key Point: Outcomes Data. The topic of outcomes data will be addressed at multiple times during the course of implementing a new clinic. The outcomes data depend on the type of clinic being started. For example, the asthma clinic outcomes data include emergency room visits for asthma, hospitalizations for asthma, and number of patients well controlled, not well controlled, and very poorly controlled, as defined by the national guidelines. Obviously, the data type will vary depending on the clinic, but the same principles apply to any clinic. Robust clinic data are required for demonstration of clinic impact.

For NNMC, the outcomes data are presented to the pharmacy chief quarterly. To save time, it is highly recommended that the outcomes data reviewed be readily accessible, such as data that can be searched via electronic health records (EHR). Keep outcomes data focused on the subject at hand. High quality, reasonable quantity, and concise data are essential for presentation to supervisors and administration. In short, outcomes data should be easy to obtain, focused, and professionally presented.

Benchmark: Physician Champion

Depending on the work location, there will be varying difficulty in obtaining a physician champion. A thoughtful physician, regardless of support, will ask many of the same questions posed by pharmacy administration. While some questions may overlap, the physician will have a slightly different focus. The physician champion may enlist support for the pharmacy clinic from other physicians, cosign notes from the clinic pharmacy providers, and be invaluable to assessing clinic issues and improvements. Obtaining a physician champion is something that can be started while initiating discussions with the pharmacy administration. In fact, pharmacy administration may have some input about which physician or department would best serve the role of champion (Table 2).

Key Point: Pharmacy Orientation. It is extremely important that the clinic initiator strive for a physician oriented to health care improvement through enhanced disease state management. This can best be accomplished by finding a physician with whom the pharmacist has had a positive working relationship. Before asking a physician to commit to such an endeavor, it is important to take time to review the relationship that exists between the pharmacist and physician, as well as the relationship between the pharmacy and the physician's department. The initiator will need to negotiate institutional environments and understand the relationships between departments to facilitate successful implementation of the clinic. Simply put, the initiating pharmacist needs to know the environment that he or she works in to find the best physician champion.

Key Point: Target Population. Despite how strong the MUE suggests that improvements can be made in patient care, various medical disciplines may be hesitant in releasing their patients to nontraditional care of a pharmacist-managed clinic. Therefore, it is extremely important to work with the physician champion to determine which patients should be targeted by the new clinic. The physician champion is critical to this step of the process. The physician will be aware of the comfort level and views of medical departments, especially in smaller facilities. For example, it was made clear early in the process of developing the NNMC Asthma Clinic that the Pediatrics Department would have a high degree of reservation, as their patient population has very specific and sensitive needs. Therefore, the physician champion assured the pediatric department that the clinic would not target their patient population.

The physician champion is pivotal in conveying to the

Table 2. Recommendations to answer Physician Champion Questions

Key Points	Recommendation
Are they pharmacy oriented?	• An established and positive relationship with physician — Worked with physician in other clinics — Previously provided well received interventions • Positive relationship between pharmacy and medical department physician belongs (Internal Medicine, Family Medicine, Pediatrics)
Target Population	• Start simple and expand as needed • Select age group all medical departments can agree with
Training	• Informal training in specific disease state physical assessment • Obtain national certification in disease state
National Guideline Outcomes Data	• Select a guideline published by a well know medical association • Select data that is easily accessible • Keep outcomes data focused

medical staff that the new clinic can enhance physician care. Physicians at NNMC and throughout IHS have a high work load and may not be able to see patients as frequently as desired. Pharmacy specialty clinics can assist the physicians in this area and provide specialty care between physician visits for designated disease states such as asthma. The clinic was designed only for adult patients without primary care providers (PCP) using the emergency room and urgent care for asthma medication refills. However, providers quickly realized the benefit of more frequent visits to a specialty clinic and soon PCPs were referring their own patients to the clinic. The physician focus can now shift to other patients requiring a higher level of care with the knowledge that their asthma patients (in this case) are being treated and monitored appropriately. The physician champion is also invaluable in obtaining medical staff support for new clinics requiring pharmacists to perform physical assessments. Pharmacists are not specialists in the area of physical assessment, and the medical staff had valid concerns. The physician champion can alleviate some of these concerns simply by conveying the nature of the clinic and disease state. For asthma, the guidelines use symptoms as a basis for interventions as opposed to physical assessment findings. This is not to underestimate the need for physical assessment in the asthma clinic, or any clinic. The physician indicated this to the medical staff and verified the physician or their designate would always be available for questions regarding examinations, thus removing the majority of resistance to the clinic.

Key Point: National Guidelines. Selection of which national guidelines to adopt is not extremely difficult. Determination of which guidelines or combinations of guidelines are to be used is a matter of discussion with the physician champion. Most importantly, the guidelines selected must be recognized by medical staff, and not based on obscure articles.

Benchmark: Clinical Practice Committee

Every facility has some form of a Clinical Practices Committee (CPC). The function of the committee is to review and approve clinical practices and protocols. Once the protocol has reached this level, it is still subject to rejection or revision; therefore, the initiator should anticipate and address any concerns, and be prepared to defend and/or revise any aspect of the protocol. Concerns can be based on the protocol itself or facility dynamics, and the initiator should anticipate both (Table 3).

Key Point: Protocol. The decision on what format to follow when writing the protocol is determined by facility policy as well as the initiator, pharmacy administration, and physician champion. At NNMC, the asthma clinic protocol is rather detailed, and much of the chosen guidelines are reproduced in the protocol for quick reference if needed. This kind of detail is certainly not required, and referencing the guideline(s) being followed may simply be enough. Whether the guidelines are reproduced in the detail or referenced, the protocol must clearly indicate the responsibilities of the pharmacist provider. It is also recommended that any exceptions to the guidelines be clearly indicated in the protocol as well. For example, the NNMC Adult Asthma Protocol clearly indicates that the pharmacist provider may prescribe any medication in the guidelines. However, the exception of oral steroid bursts is clearly defined in the protocol, and pharmacists must contact a provider before initiating this treatment plan.

Prescribing privileges must be clearly stated in the protocol, and the protocol must explicitly state what classes of

Table 3. Recommendations for Clinical Practice Committee Key Points

Key Points	Recommendation
Protocol	• Broad or detailed • Clearly specify responsibilities, including prescriptive authority • Use the IHS NCPS protocol requirements
Training/Qualifications	• Obtain specialty qualifications (e.g., AE-C, AAHIVP, CACP, NCPS) • Obtain formal physical assessment training • Obtain informal physical assessment training form physician
Outcomes Data	• Clearly define what will be reported • Define time frame for reporting • Define person/committee that will be given the report
Target Population	• Start simple and expand as needed • Select age group all medical departments can agree with

medications are to be included. The Indian Health Service has a program in place that qualifies clinics and providers as specialists. This program, known as National Clinical Pharmacy Specialist (NCPS), sets forth certain elements that a protocol must have to become qualified.[22] It is highly recommended to follow the guidelines set forth by NCPS so that the clinic will be easily integrated into this qualification.

Key Point: Training/Qualifications. Further training in the disease state being treated by the new clinic can be obtained both in the formal and informal setting. The physician champion, pharmacy administration, and clinic initiator must determine how much of each type is required.

At NNMC, the physician champion provided physical assessment training to the clinic initiator by reviewing basic HEENT and pulmonary techniques. Formal training includes obtaining national certification as an asthma educator (AE-C). Another option being explored at NNMC will require some pharmacists to complete the IHS National Clinical Pharmacy Specialist Pharmacist Practitioner (NCPS-PP)[22] or equivalent. The NCPS-PP is an extensive training program that requires 60 hours of physical assessment training followed by 500 patient contact hours from at least 300 patients. Obtaining this qualification will significantly improve value of these pharmacists in the eyes of the medical staff.

In addition to physical assessment and diagnosis, an important part of this training should be documentation and patient presentation. Pharmacists generally have a different approach to documentation and presentation that is not the same as medical providers. The clinic providers will need to be trained by both the initiator and physician champion on proper techniques. This point may seem rather minute but its importance cannot be stressed enough. Regardless of the pharmacist's knowledge level, the medical staff may judge clinical proficiency based on presentation and documentation. Pharmacists must therefore present and document patient cases in a format the medical staff recognize and understand. Failure to do so may result in negative perceptions and consequences.

Benchmark: Clinic

Once the clinic has been approved and is initiated, a totally different and unique set of challenges will present themselves to the clinic manager and staff. It could be argued that getting a clinic started is only a small step in the process and that keeping the clinic up and running may be the biggest challenge. Some of the past and continued challenges for the NNMC Adult Asthma Clinic include no shows and level of referrals (Table 4).

Key Point: No Shows. It became an early challenge when many new patients were not keeping their initial appointments. Patients were observed to keep follow-up appointments when they realized the usefulness of the clinic after the first visit. However, how to get patients to their initial clinic visit became an important issue. It is hard to justify the existence of a clinic when patients are not showing up for appointments. The clinic initiator may have to be creative in finding ways to overcome this issue.

Initially, phone calls were used to remind patients of upcoming appointments. This was extremely important for new patients who may not be aware that the ER or PCP referred the patient to the clinic. However, the extremely rural setting of NNMC also means that modern technology is not always readily available. The lack of phone service by many patients hampered the efforts of a phone reminder program and show rates did not improve significantly. A model for reminder letters was considered but not implemented. It was believed that the rural setting and slow access to mail by many patients would not make this approach any more successful than the telephone system. The final decision was to implement a

Table 4. Recommendation to overcome clinic issues

Key Issues	Recommendation
No Shows Referrals	• Double book appointments until show rate increases • Advertise clinic during routine discussions with providers • Make the referral process easy and quick
Training	• Use physician champion to recruit patients from other providers • Provide adequate training to new providers • Set baseline number of annual continuing education credits for disease state being treated by clinic
Outcomes Data	• Report clinic data to support positive outcomes from clinic

double booking program. Almost all appointments with new patients were double booked in the early stages of the clinic. Over time the requirement for double booking has decreased dramatically. Of course this system is not without pitfalls. Occasionally, the majority of patients would make their appointments, resulting in extended wait times and frustrated patients.

Key Point: Referrals. Having hospital approval does not necessarily mean that the clinic will get a flood of referrals. The clinic staff and physician champion still need to advertise the existence of such a clinic and provide a relatively easy process to refer patients. As such, the pharmacy staff is essential in advertising the clinic and assisting physicians in the referral process. The preferred and most easily tracked method is via EHR. The completed forms automatically print out in pharmacy and are given to the clinic manager for review. The old paper forms still exist and are used by some providers. Lastly, providers wishing to refer a patient but who are unable to complete a referral request may send an e-mail to the clinic manager and the form will be completed for the provider.

The use of outcomes data is useful in enhancing the referral process. The protocol requires that the outcomes data be presented to the pharmacy administration quarterly. It is highly recommended to provide the physician champion with these data as well. This will have several positive benefits to the new clinic. First, it will keep the physician champion in the communication loop regarding clinic progress. The physician communicates this to other medical providers, resulting in word of mouth advertisement. Second, the data may not have all positive indicators. The initiator can then communicate to the physician champion how these indicators can be addressed to improve outcomes. With the asthma clinic, there are a group of patients who have remained very poorly controlled based on national guidelines. These patients were reviewed further and many were determined to have poor adherence. This tells the physician that these sub-optimal clinic outcomes are not necessarily related to the clinic or provider practices. The clinic providers can now spend time with these patients to determine if roadblocks exist that prevent medication adherence (e.g., transportation or language barriers). The physician champion now knows that the pharmacist providers are on top of the patient population and again more communication between providers will occur. Advertisement for the clinic from respected physicians who have confidence in the clinic pharmacists will go a long way in improving the referral process.

Referrals are an important part of clinic start up and continuation. The lack of hospital support for a new clinic due to either poor advertising or a complex referral process will undermine the clinic's existence. Continued referrals require that the process be well advertised and easy to complete.

Conclusion

Starting a pharmacy specialty clinic can be a daunting task with significant challenges, especially if the initiating pharmacist does not have full local support. However, by anticipating key points required at each benchmark, the process can be less frustrating. Perseverance on the part of the initiator is crucial. Perseverance is especially important when dealing with staff not fully aware of the role pharmacists can play in improving patient care. Perseverance is also required in large institutions and systems that may not move as quickly as one might hope. However, in the end, the frustrations seem minimal when compared to the personal satisfaction of starting a clinic and improving patient quality of life.

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New Parenting Curriculum supports Native Families with FASD

The Minnesota Indian Women's Resource Center (MIWRC) is proud to announce the availability of a new, strength-based parenting curriculum focused on supporting American Indian families where fetal alcohol spectrum disorders (FASD) is suspected. *Gifts from the Sacred Circle: A Native Traditional Parenting Curriculum for Families Affected by Fetal Alcohol Spectrum Disorder* is now available through Hazelden Publishing.

Authored by Rosemary White Shield, Ph.D., *Gifts from the Sacred Circle* is the result of seven years of collaborative work with tribes, elders, researchers, and organizations dedicated to addressing the role of FASD in Native communities. The goals of the curriculum are:

- To promote cultural health for families and children affected by FASD,
- To develop individual and family success,
- To transmit knowledge and skills to participants that increase successful parenting, nurture children's development, prevent future FASD births, and build well-being for Native people.

The curriculum design is research based, and built upon the Medicine Wheel Tribe Specific Education Model with input from Native families, Elders, caregivers, spiritual leaders, service providers and others. Field tests were conducted on three Reservations and two urban Indian locations, with highly positive outcomes including 100% participant sobriety at three of the field test sites.

Culturally based thematic curriculum areas include: Compassion, Support, Boundaries and Expectations, Commitment to Learning, Positive Values, and Positive Identity. It is designed to be taught in weekly 2 ½ hour sessions for 12 weeks. It can be used in any setting – parenting groups, substance abuse or mental health programs, supportive housing, childcare programs, community educational settings – and can be adapted to tribal specific teachings.

One facilitator who participated in the field tests had this to say about *Gifts from the Sacred Circle:*

"*In Native culture the child was seen as the future and extension of one self; all family members and extended family members placed high value on the child, each member being responsible for molding and shaping the child's life. In modern times this role has changed to a non-native way of thinking where the child is last and adults are at the fore front the most important. Native teachings tell us to always place our children first above all else, treasure them as gifts from the Creator.*"
Linda Eagle Speaker

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A Formulary Brief on Chlorthalidone

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Background

The IHS National Pharmacy and Therapeutics (NPTC) reviewed thiazide diuretics at their April 2012 meeting. This review primarily focused on two thiazides: hydrochlorothiazide and chlorthalidone. Hydrochlorothiazide is currently the single named agent in this class on the IHS National Core Formulary (NCF). After the review of evidence in guidelines and clinical trials involving the use of these two agents, chlorthalidone was *added* to the NCF. The committee is producing this formulary brief to review the evidence in favor of chlorthalidone use and to encourage its utilization as a first line option when initiating diuretic therapy in patients with essential hypertension.

Discussion

Hypertension (HTN) affects approximately 76.4 million individuals in the United States. Currently, one in every three adults has HTN, a major risk factor for heart disease, stroke, congestive heart failure, and kidney disease. Hypertension is common in American Indian/Alaska Natives (AI/AN), affecting approximately 30% of individuals. AI/AN are 1.3 times more likely to have HTN than white adults.[1] Among American Indian men 45 to 75 years of age, the incidence of CVD ranges from 15 to 28 per 1000 population. Among women, it ranges from 9 to 15 per 1000.[2] Heart disease is the leading cause of mortality in AI/AN, reaching approximately 18.4% in 2007.[3] As such, life expectancy for AI/AN is 5.2 years less compared to all races in the US (72.6 years vs. 77.8 years, respectively; 2003 - 2005 rates).[4]

The mechanism of action of thiazide diuretics involves increasing the excretion of sodium and chloride by blocking their reabsorption in the distal tubule of the nephron, leading to reduced reabsorption of water and therefore diuresis. Both chlorthalidone (CTD) and hydrochlorothiazide (HCTZ) have FDA indications for the treatment of hypertension and edema. CTD has a significantly longer half-life compared to HCTZ (40-89 hours vs. 5.6-14.8 hours). It is recommended to be started at 25 mg daily and may be increased up to 100 mg daily for the treatment of hypertension. In treating edema, it can be started at 50-100 mg daily and increased up to 150-200 mg daily.[5, 6]

Guidelines

JNC 7[7]. JNC 7 guidelines for the prevention, detection, evaluation, and treatment of HTN provided evidence-based recommendations based on scientific literature between 1997 to 2003. JNC 7 recommends initial therapy with lifestyle modifications. However, if blood pressure (BP) goals are not achieved (< 140/90 mmHg or < 130/80 mmHg with chronic kidney disease), thiazides or thiazide-like diuretics should be initiated for most patients with uncomplicated HTN, either alone or in combination with another class (ACE-Is, ARBs, BBs, CCBs). Selection of other agents as initial therapy should be utilized if thiazide diuretics cannot be used or if the patient has a compelling indication where a specific class is warranted. (i.e., heart failure, post myocardial infarction, high coronary disease risk, diabetes, chronic kidney disease, and recurrent stroke prevention).

NICE[8]. In August 2011, the National Institute for Health and Clinical Excellence (NICE) updated the clinical guidelines for managing hypertension in adults. They recommend using a thiazide-like diuretic (i.e., CTD) over a thiazide diuretic (i.e., HCTZ) when initiating or changing diuretic therapy. However, they also recommend that those patients currently stable and well controlled on HCTZ should continue treatment with HCTZ. These recommendations are based on the limited evidence available to support thiazides compared to the demonstrated benefits of thiazide-like diuretics. The Guideline Development Group (GDG) also comments that limited clinical outcomes data is available to support the use of thiazide diuretics, including low dose. However, results comparing thiazide-like diuretics, including CTD, showed statistically significant clinical outcomes including CV events, stroke, CHD event, but not significant outcomes in terms of mortality. Overall, the GDG emphasizes that the head to head comparison trials were underpowered to show a statistical difference in blood pressure lowering.

ACC/AHA[9]. In 2011, the American College of Cardiology and the American Heart Association (ACC/AHA) provided "expert consensus" for treating hypertension in the elderly. Thiazide diuretics including HCTZ and CTD are recommended for initial treatment of hypertension based on several studies, which demonstrated a reduction in cardiovascular, cerebrovascular, and renal adverse outcomes in the elderly. Overall, no studies looking at the comparative efficacy between HCTZ and CTD were mentioned. The authors commented that since CTD has a longer duration of action and increased potency, elderly patients may be at higher

risk for metabolic adverse effects. There are no recommendations for which thiazide to initiate.

Clinical trials

The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)[10] studied the effects of CCBs or ACEIs versus diuretics (chlorthalidone was the only studied diuretic in the ALLHAT trial) on the incidence of combined fatal CHD and non-fatal MI. This multicenter, randomized, double-blind, active controlled trial included 33,357 patients aged 55 years or older with hypertension and at least one other CHD risk. Mean follow-up was 4.9 years. Combined fatal and nonfatal MI and all-cause mortality did not differ between treatment groups. In contrast, blood pressures were significantly higher in the amlodipine (0.8 mm Hg, p=0.3) and lisinopril (2 mmHg, p<0.001) groups compared to the CTD group. Other secondary endpoints revealed a 38% higher risk of HF (p<0.001) with amlodipine compared with CTD. The lisinopril group had a 15% higher risk of stroke (p=0.02) and a 10% higher risk of combined CVD (p<0.001) compared with CTD.

The Multiple Risk Factor Intervention Trial (MRFIT)[11] was a randomized primary prevention trial using multiple interventions to determine the effect on mortality from CHD. Participants were men 35 to 57 years old (N=12,866) randomly assigned to either the special intervention (SI) program (N=6428) or usual care (UC) (N=6438) provided from health care facilities in their community. The SI program included smoking cessation counseling, dietary recommendations to decrease cholesterol, and treatment for hypertension. Subjects were defined as hypertensive based on a diastolic blood pressure of 90 mmHg or greater. Hypertension was managed in a stepwise procedure. Step 1 of the 4 total steps included the use of CTD or HCTZ 50 - 100 mg daily based on the physician's preference. Following Step 1, reserpine, hydralazine, guanethidine, or specific alternate drugs were added if goal BP was not reached. One-third of the SI subjects were on a diuretic alone. Overall, after four years, both CTD and HCTZ lowered blood pressure to a similar degree (systolic BP reduced 21.8 mmHg vs. 18.8, diastolic BP reduced 12.7 mmHg vs. 11.1). However, the overall intervention was multifactorial and it is unknown if there were true statistical differences among the two drugs after four years.

An extended follow up trial was conducted on all patients who were classified as hypertensive (N=8012)[12]. Significant increases in mortality due to all causes and CHD were seen in hypertensive patients with resting ECG abnormalities only through 1982, but were not seen following 1982. The authors hypothesized that these post-trial changes may be due to changes in diuretic therapy in the SI group five years after randomization. After five years, it was recommended that CTD be the only diuretic therapy for step 1 control of HTN. This change was based on favorable outcomes seen in clinics using CTD and unfavorable outcomes in other clinics using HCTZ. Therefore, beneficial mortality outcomes post-trial may have been due to this change in protocol. However, several other factors may have influenced these outcomes, including the continued interventions targeting smoking cessation and cholesterol lowering.

Dorsch and colleagues performed a retrospective observational cohort analysis comparing the clinical effects of CTD and HCTZ using data from MRFIT.[13] The primary outcome measure was cardiovascular events (CVEs) that were adjudicated and pre-specified in MRFIT. Nonfatal events consisted of clinical MI, MI determined by annual ECG, stroke, coronary artery bypass surgery, ECG-defined left ventricular hypertrophy, heart failure, angina, and peripheral artery occlusive disease. Results revealed that patients on CTD had significantly fewer CVEs compared with those on HCTZ (adjusted hazard ratio: 0.79 [95% CI: 0.68 to 0.92]; p=0.0016). The individual CVEs that contributed the most to this difference were clinical MI, ECG MI, coronary artery bypass, rose angina, and peripheral artery disease. Patients on CTD had a significantly lower SBP (p <0.0001), total cholesterol (p<0.0001), LDL (p=0.009), and serum potassium (p <0.0003), and higher uric acid over time (p<0.0001) compared to HCTZ. Glucose (p=0.1595) and triglyceride (p=0.2648) levels did not differ between groups.

Findings

Based on the reviewed literature, CTD may be more beneficial in lowering SBP and preventing CVD events compared to HCTZ. Additionally, larger trials including ALLHAT and MRFIT show favorable outcomes with CTD when compared with other antihypertensive therapies. CTD's longer duration of action and higher potency may provide a greater antihypertensive effect, particularly throughout nighttime hours.[14] Moreover, the longer elimination half-life of CTD may result in more sustained BP reduction over 24 hours.[14] Conversely, CTD may have greater effects on lowering potassium and increasing uric acid versus HCTZ.[13] Overall, literature supports the safe and effective use of CTD in patients with HTN, and therefore, should be considered an alternative first line agent alongside HCTZ.

If you have any questions regarding this document, please contact the NPTC at *nptc1@ihs.gov*.

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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

"The legitimate object of government is to do for a community of people whatever they need to have done, but can not do, at all, or can not so well do, for themselves."

Abraham Lincoln

Articles of Interest

Randomized controlled trial to improve primary care to prevent and manage childhood obesity: The High Five for Kids Study. *Arch Pediatr Adolesc Med*. 2011;165(8):714-722. *http://archpedi.jamanetwork.com/article.aspx?doi=10.1001/archpediatrics.2011.44*

Objective: To examine the effectiveness of a primary care-based obesity intervention over the first year of a planned two-year study.

Setting: Ten pediatric practices, five intervention and five usual care.

Participants: Four hundred seventy-five children aged 2 to 6 years with body mass index (BMI) in the 95th percentile or higher or 85th to less than 95th percentile if at least one parent was overweight; 445 (93%) had 1-year outcomes.

Intervention: Intervention practices received primary care restructuring, and families received motivational interviewing by clinicians and educational modules targeting television viewing and fast food and sugar-sweetened beverage intake.

Outcome: Change in BMI and obesity-related behaviors from baseline to 1 year.

Results: Compared with usual care, intervention participants had a smaller, nonsignificant change in BMI (−0.21; 95% confidence interval [CI], −0.50 to 0.07; P = .15), greater decreases in television viewing (−0.36 h/d; 95% CI, −0.64 to −0.09; P = .01), and slightly greater decreases in fast food (−0.16 serving/wk; 95% CI, −0.33 to 0.01; P = .07) and sugar-sweetened beverage (−0.22 serving/d; 95% CI, −0.52 to 0.08; P = .15) intake. In post hoc analyses, we observed significant effects on BMI among girls (−0.38; 95% CI, −0.73 to −0.03; P = .03) but not boys (0.04; 95% CI, −0.55 to 0.63; P = .89) and among participants in households with annual incomes of $50 000 or less (−0.93; 95% CI, −1.60 to −0.25; P = .01) but not in higher-income households (0.02; 95% CI, −0.30 to 0.33; P = .92).

Conclusion: After one year, the High Five for Kids intervention was effective in reducing television viewing but did not significantly reduce BMI.

Editorial Comment

There have been a few programs with older, obese children and adolescents that have shown some limited, short-term reduction in BMI. This study looked to replicate those findings with preschool children.

The most optimistic view of this study is it confirms the adage that change is hard. The intervention in this study required a huge commitment from these practices in terms of training, change in workflow, and time spent doing behavioral intervention with motivational interviewing. In spite of these efforts, there was no difference in the BMI measurements at one year between those who received the intervention and those who received usual care. There was a reduction in television viewing and a non-significant reduction in consumption of sugar sweetened beverages. Was the time and effort taken worth these small changes in behavior if there was no change in BMI? These are tough questions that all pediatric practices will have to answer for themselves.

Helping Patients with Diabetes Manage Good Oral Health

People with diabetes frequently have problems with their teeth and gums, especially when they have poor glycemic control. The higher the blood glucose, the greater the risk for developing periodontal disease. AI/AN people with diabetes have two to three times more advanced periodontal disease than people who do not have diabetes.

Signs of Periodontal Disease

Periodontal disease results in the loss of all teeth in approximately one-third of AI/AN people with diabetes. People without teeth can suffer emotionally and nutritionally because they may not be able to eat many important types of foods. Every attempt should be made to replace missing teeth with dental prosthetics when there is significant loss of chewing function.

Periodontitis can negatively affect diabetes control and development of diabetes complications. The infection and inflammation associated with periodontitis can aggravate blood glucose control and increase risk for many of the complications of diabetes such as Cardiovascular Disease and Chronic Kidney Disease.

What Providers Can Do for their Patients with Diabetes

Examine the patient's mouth as part of routine diabetes care:

- Examine teeth and gums for plaque, gingival inflammation, and caries.
- Inquire about pain and look for problems, including sores, swollen or bleeding gums, loose teeth, mouth ulcers or growths, candidiasis, or decayed teeth.
- If a patient uses oral tobacco, be sure to examine gums and oral mucosa, especially where the patient usually places the tobacco.

Refer for professional dental care:

- Annually for routine dental examination.
- More often for people with periodontal disease as determined by the dental care professional.
- As needed for evaluation of oral health problems

Albuquerque Area Dental Support Center
6916 4th Street NW, Suite 1
Albuquerque, NM 87107
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Healthy Families • Strong Communities
NAPPR, Inc.

Indian Health Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes
Updated December 2011

Assuming Coordination of an Established Clinic, Established Staff, and Ingrained Culture

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Introduction

It is your second day of being at a new facility and you are called into the Chief of Pharmacy's office. They are having a meeting about the pharmacy-based clinics and wanted you to sit in on it. They ask if you would accept the challenge of taking charge of their pharmacy based anticoagulation clinic that has been practicing since 2001. You have extensive experience staffing and some experience coordinating an anticoagulation clinic, but that was from another site, with a different staff, different culture, and a different procedural approach. Pharmacy management wants you to take this clinic in an improved direction. You accept. What should you be considering and how should you proceed?

Pharmacy-run clinics have been established to help reduce physician workload and improve patient outcomes in medication managed chronic conditions such as anticoagulation therapy, tobacco cessation, asthma, dyslipidemia, hypertension, and others. Witt et al concluded that a pharmacy-based clinic has the potential to excel at anticoagulation therapy. This was accomplished by demonstrating that the proportion of time that patients stayed in their target INR range could be improved in pharmacy-based anticoagulation clinic settings (63.5% for clinical pharmacy anticoagulation service group vs. 55.2% for usual care; $p < 0.001$[1]). Oftentimes, there is a great emphasis on the initiation of a new pharmacy-based service. It is exciting and rewarding to break new ground. However, the maintenance of existing services is just as critical. Success can only be expected if the clinic is maintained in a well-organized and focused manner, always progressing and improving. This is the challenge for the clinic coordinator.

This article

- describes a general approach to reviewing and updating a pharmacy-based clinic
- introduces an implementation framework that can be used to get started

A strategy will need to be selected to keep things organized, focused, and moving forward. The Plan-Do-Study-Act[2] method is a four-step problem solving process used for quality control. It emphasizes and demonstrates that performance improvement projects start with effective and careful planning, leading to effective action, which in turn leads back to effective planning. This is intended to be a continuous cycle of improvements that keeps the clinic moving in a positive direction.

- *Plan:* Observe the process. Make decisions on what needs to be improved. Decide on the order in which the improvements need to be made. Come up with a plan that may result in a measurable improvement.
- *Do:* Implement the plan and measure its performance
- *Study:* Measure the new processes and compare the results against expected results
- *Act:* Analyze the differences to determine their cause. Determine where to apply changes that will include improvement.

Plan: How do you decide what to do and in what order?

Management Expectations. Before observing the clinic, a meeting needs to be set up with the pharmacy director or whomever the clinic coordinator is required to report to. This meeting should be used to find out the following:

1. What will be expected from the coordinator?
2. What state does management believe the clinic to be in?
3. What reports is management expecting to receive from the clinic coordinator and when?
4. Define and prioritize timeframe for required changes.
5. Which changes need to be approved by management before being implemented?

The information gathered from this meeting should be used to start a list of items to be addressed. Meetings with management and clinic providers should be scheduled at regular intervals so that management and staff are accountable. This will allow all stakeholders in the clinic to be "kept in the loop" of the progress being made, provide input and feedback, and help to ensure that expectations of management are being reached.

Support Structure. Support from all departments involved in the clinic is a must.

- Pharmacy Management
- Pharmacy Clinic Staff
- Physician staff
- Laboratory
- Nursing

Pharmacy management will need to be supportive, because they will be allocating pharmacists from the traditional roles of screening and dispensing to schedule into the clinic. These pharmacists will also need to be trained and maintain a minimum level of competence, requiring even more resources and time. The clinic will need the support of the medical staff, because they will be referring patients into the clinic. The clinic will not exist if it does not have a consistent patient base. There may be point-of-care instruments used in the clinic that the laboratory is in charge of. Nursing may also be involved in the screening of patients. Nursing may need to have a certain nurse assigned to the clinic on those days. They will also need to be trained on any point of care instruments and the policies and procedures of the clinic.

Credentialing. Credentialing and certification help bring validity to both the clinic and its providers. Find out if the clinic has ever been involved in the Indian Health Service's National Clinical Pharmacy Specialist (NCPS) Program or something similar. The NCPS committee serves to credential pharmacists working in pharmacy-based clinics and performing advanced duties similar to primary care. This developed from the October 18, 1996 memorandum from the Indian Health Service Director that established IHS pharmacists as primary care providers (PCPs) and granted privileges to include prescriptive authority.[3] NCPS certification can be obtained by submitting an application and fulfilling national requirements.[4] The qualifications for NCPS certifications are the minimum standards that should be worked towards locally. These qualifications can serve as a useful template for any pharmacy-run clinic.

Policy. The Clinical Policy or Collaborative Practice Agreement is the set of documents that describes policies for operation and the procedures necessary to fulfill the policies. They serve as permission for the pharmacist to act as a provider in the setting of the clinic and outline what they can do in certain situations. This should be a clear and concise rule book for the clinic. Policies and procedures are required by facilities to stay accredited and are also directly related to the consistency and quality of care a patient receives. The Clinic Coordinator is responsible for assuring policies and procedures governing the clinic are clear, concise, and followed. The providers working within the clinic must abide by this agreement or they are practicing outside of their scope of practice. The NCPS committee has put together a comprehensive list of critical elements that should be included in a Collaborative Practice Agreement.[5]

These elements include:

- Statement of Need
- Clinic information
  - referral process
  - clinic procedures
- What outcomes will be collected
- Performance improvement
- Clear statements of what the pharmacist is authorized to do
- Training and local certification
- Reference the most current guidelines
- Protocol approval signatures from institution

Direct Observation and Chart Operations. Direct observation is characterized by passively observing a typical day of clinic visits. Charting operations involves writing out each of the steps that the provider goes through during a clinic visit. This will help to point out redundant and potentially unnecessary steps. A patient may also be shadowed through the clinic to observe their experience.

Find out who is involved in the clinic. This goes beyond the pharmacists who are acting as the providers. There could be nurses and/or clerks responsible for checking patients in and scheduling follow up appointments, laboratory personnel, etc. Coordinate with the physician that is acting as the champion for the clinic. Make a list of all of these people and how to contact them. Efforts should be made to gather everyone's input and feedback on the clinic initially, and as a continuous effort for performance improvement.

Referral Process. Patients will be referred to the pharmacy managed clinic. The clinic will need to set the criteria that define patients as eligible or ineligible for the clinic. There needs to be a specific protocol on how referrals are communicated to the clinic. There also needs to be a protocol regarding how patients are dismissed from the clinic, or referred back to their primary care provider for further care. The most important part of the referral process is to ensure a smooth process with no lapse in care for the patient.

Retrospective Data. Data collection is required to document if a clinic is providing a valuable service to patients as well as the institution. Without good data, it is impossible to see if goals and national standards are being met. The data collection system in place for the clinic may be adequate or not. This will be something that the coordinator needs to ascertain and develop if needed. The clinic needs to have data collected and analyzed before changes are made and after changes are made so they can be compared. This will demonstrate whether changes resulted in positive or negative outcomes and identify areas for further improvement.

Assess. Review the list of issues that have been compiled thus far via data analysis or stakeholder input. Determine if there is anything that can be eliminated from the list. Examine what is left and assign them a rank order as to which should be done first, second, third, and so on. There may be issues that

take precedence over others. Patient safety issues should always be the primary focus. Current guideline updates would be another item that may need to be addressed early on in the process.

Move Forward. Now that a decision has been made on what issue(s) to address, a plan can be mapped out on how to carry out a change that will have a positive impact on the clinic. A decision on what data will be used to show this impact will need to be made at this point. There also needs to be a plan in place to communicate any changes to all of the clinic staff so that the plan is carried out.

Do: How do I do it?

The next step in the process will be to implement a change, and measure the results. The plan is put into action, and data are collected. Problems and unexpected events are recorded, analyzed, and addressed.

Some projects that have been mentioned previously as starting points that need to be initiated could include:

- *Data Collecting Methods:* implementing a form of continuous data collection; this was mentioned earlier but will be critical for evaluation to show which future performance improvement projects were successful
- *Patient Safety Issues:* any change that could improve patient safety should be high on the list of performance improvement actions.

An example of a potential change that could impact patient safety within an anticoagulation clinic may involve the missed appointment policy. There needs to be a system in place to make sure that patients are being evaluated for bleeding, clotting, and INR measurement prior to warfarin being filled, should they miss their appointment. Warfarin has a narrow therapeutic index, and the patient needs to be evaluated to ensure that any potential problems are caught and not perpetuated by simply refilling the medication. This may require having patients go through a walk-in clinic for evaluation should they miss their anticoagulation clinic appointment.

Actions that will be required to implement this change include the following:

- check with all staff to ensure a workable and reasonable plan
- change the policy and procedures to reflect what will be done
- inform the patients of the change
- Make sure that all of the hospital staff that could be impacted are aware of the change.
  - — The pharmacy staff will need to know what to do when an anticoagulation clinic patient comes to them requesting a refill of warfarin.
  - — Walk-in clinic staff will need to know that they may be seeing more anticoagulation clinic patients.
  - — Educational points may need to be reinforced to both staffs regarding anticoagulation

Study: How do I know if what I did worked?

This study phase is handled by monitoring, reviewing, assessing, and evaluating data. The data will be analyzed and compared to retrospective data in order to show whether the change resulted in a positive, negative, or equivocal effect on the clinic.

Returning to the anticoagulation clinic project examples:

Data Collection Methods. A data collection method was established earlier. Now that it has been tried out it must be evaluated to see if it was effective. This could be broken down to seeing if the time it takes to collect the data is appropriate, can it be compiled in a reasonable amount of time, and is it providing useful information? Do not forget to check with others involved in the clinic to get their input on how effective the data collection was and whether problems exist with it.

Patient Safety Issues. A patient safety issue was identified earlier and resulted in a policy change on how missed appointments are to be handled. Several different measures could be used to quantify the results of this change:

- potential decrease in number of patients not being followed up on in an appropriate amount of time
- potential decrease in critical INR values
- potential decrease in number of Emergency Room visits related to anticoagulation
- improvement in percentage of time patients are within goal INR range
- improved show rates for appointments
- were there issues with walk-in clinic or pharmacy staff with the new policy?

Act: How do I decide what to do next?

The plan for change may need to be refined at this point if the desired effect was not achieved or an unintended problem was identified. A decision will need to be made on what further enhancements need to be made to the original plan for further improvement. If the desired effect was met, the next problem on the list can be looked at. Either way, the PDSA cycle will start again. PDSA is a systematized, incremental, continuous process for improving systems, programs, and processes, because not all "improvements" are an improvement.

Data Collection Methods. Any new projects will need ways of being measured. Current measures may be adequate and/or new measures may need to be collected and looked at.

Patient Safety Issues. An additional patient safety issue that could be addressed is patient knowledge about their anticoagulation. Data could be collected using open ended questions to assess baseline patient knowledge. Improving patient knowledge would be the primary goal of this project and the cycle would start again.

Conclusion

Pharmacy managed clinics are often started by individuals and management teams that are motivated and interested in a

particular disease state. The quality or even existence of the respective clinic may be threatened once these champions leave the facility. It is imperative that a maintenance plan be put into place and a successor trained. The successor identified to assume administrative oversight of the clinic should possess the same motivation and interest in maintaining and improving the clinic as the individual or team did when starting the clinic. Pharmacy-managed clinics require motivated teams, operating within organized systems, making positive changes. The plan-do-study-act method provides structure for continual improvement and identification of positive or negative impact. The ultimate result is a pharmacy-managed clinic that does not stagnate, and provides optimal care for its patients.

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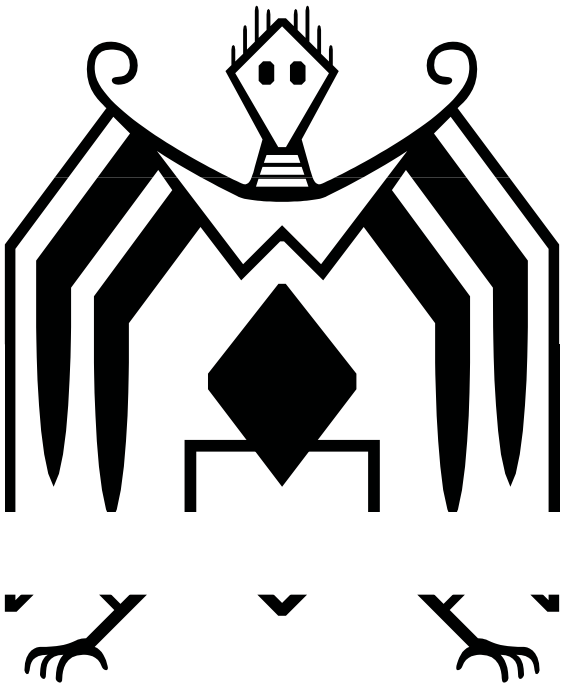

The Crow Tribe Motor Vehicle Crash Site Identification Project

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Introduction

Unintentional injuries are the leading cause of death for American Indians/Alaska Natives (AI/AN) ages 1 - 44 residing in Montana (2005 - 2007). Motor vehicle crashes account for 68% of these deaths, leading to a motor vehicle mortality rate for AI/AN in Montana that is 2.4 times the state's overall rate (64.7 per 100,000 vs. 26.6 per 100,000).[1] The Crow Reservation, headquartered in Crow Agency, is the largest reservation in Montana. Home to 8,143 (71.7%) of the 11,357 enrolled Apsáalooke tribal members, the reservation covers more than 2.2 million acres.[2]

The purpose of this project was to identify and prioritize locations (road segments and cluster sites) where crashes were occurring using transportation data and geographical information system (GIS) technology and software.[3,4] The results could then guide injury reduction efforts by the Crow Tribe and the state of Montana.

Methods

Approval to conduct and publish this project was obtained from the Crow Tribe's Health and Human Services Subcommittee and the Crow Tribal Legislature. Permission to publish was also obtained from the Montana-Wyoming Tribal Leader's Council, the Institutional Review Board for the IHS Billings Area.

Lengths of road segments and average daily traffic counts for reservation roads were obtained from the Montana Department of Transportation, Traffic Safety Bureau. I defined a MVC cluster site as three or more MVCs occurring within a 0.5 miles radius of each other. Data on motor vehicle crashes (MVCs) were obtained from two sources: the Montana Highway Patrol (MHP) motor vehicle crash data list (via the Montana Department of Transportation); and the Crow Bureau of Indian Affairs (BIA) law enforcement MVC reports. The Crow Tribe has a cross-jurisdiction agreement with the state of Montana Highway Patrol. The MHP responds to the majority of crashes on the reservation, especially crashes involving fatalities or severe injuries. The tribe does not have its own police department. Instead, the BIA provides law enforcement services to the tribe, including traffic-related events.

The MHP data contained information on MVCs occurring within and surrounding the Crow Indian Reservation for the years 1996 - 2009. The fields in this dataset contain unique coded identifiers, including crash location (mile marker and Montana Public Land Survey System coordinates), date, time, number of vehicles, number of injuries, number of fatalities, and weather conditions. I defined an "injury crash" as a police-reported crash other than one classified as "property damage only." A total of 1,208 on-reservation MVCs were reported by the MHP from 1996 - 2009. Elimination of non-injury crashes reduced the number to 545. I obtained GPS coordinates for most of these by visiting the site of each crash. Because of safety concerns, I plotted crashes occurring on Interstate 90 (which runs directly through the Crow Indian Reservation) using GIS software to convert mile marker locations from the Highway Patrol reports to GPS coordinates. ArcView 9.3 software was used to plot crashes occurring on small rural roads without mile markers, using township, range, and section data from the Montana Public Land Survey System (PLSS).

The Crow BIA Law Enforcement MVC reports were the second source of MVC data. A total of 59 MVC police reports were reviewed for the period January 1, 2006, to September 30, 2008. Of these 59 reports, 20 (34%) were eliminated because the location of the crash was not recorded; and 13 or the remaining 39 reports (33%) were identified as duplicates within the MHP database. The 26 unduplicated BIA-reported MVCs were recorded, GPS plotted, and entered into GIS software for analysis, resulting in a combined (MHP and Crow BIA) total of 571 crashes plotted for the Crow Reservation for the years 1996-2009.

To determine the rate and severity of motor vehicle crash injuries on different types of Crow Reservation roads (interstate, primary and secondary, and non-interstate national highway system or NINHS roads), I calculated three indices: annual crash rate, severity index, and severity rate. To compare the Crow Reservation results with state of Montana data, all crashes, including those with property damage only, were used in the calculations.

Annual crash rates for individual road segments per million vehicle miles travelled (VMT) were calculated as follows (where AADT = annual average daily traffic count):

Crash rate (CR) = [(number of crashes in time period) x 106] ÷ [(AADT x 365 days per year) x (number of years) x (length of road segment in miles)]

Police reports contain a field for recording the highest severity of injury in a crash. We adopted the Montana Department of Transportation (DOT) formula to calculate a "severity index" for individual road segments:

> Severity Index (SI) = [8 (number of K + A crashes) + 3 (number of B + C crashes) + (number of O crashes)]/(total number of crashes)
> Where K = crash with fatality, A = crash with an incapacitating injury, B = crash with a non-incapacitating injury, C = crash with a possible injury, and O = crash with property damage only.

Finally, a "severity rate" was calculated for each road segment to incorporate both the impact of crash rate and severity of injuries: Severity Rate (SR) = CR x SI. For example, a road segment X having a crash rate (CR) twice that of road segment Y, but a severity index (SI) half that of road segment Y, would have the same "severity rate" (SR) as road segment Y.

The GIS software used in this project was the Environmental Systems Research Institute's (ESRI) ArcMap version 9.3. I first created a geo-database file containing all the fields for the law enforcement reports. The file was then transferred into companion software (called ArcPad v7.0.1) for mobile GIS and field mapping applications using handheld and mobile.[5]

Results

Among the 571 total eligible crashes, there were 83 fatalities and 910 injuries. The number of motor-vehicle crash fatalities per year ranged from one to eleven. The average number of annual MVC injuries was 91 between 1996 and 2001; and 51 between 2002 and 2008 (Figure 1).

Thirty-six MVC cluster sites were identified on the Crow Indian Reservation (Figure 2). Twenty-two (61%) of the cluster sites occurred along Interstate 90 and an additional six (17%) occurred along Secondary Route 313.

The crashes presented in Table 1 include those involving "property damage only" to maintain consistency with the state's transportation statistics. Secondary Route 87 had the highest crash rate at 1.1 per million vehicle miles traveled (VMT). US Highway 212 and Secondary Route 463 had the lowest crash rates: 0.14 per VMT. The road system with the highest severity rate (SR = 6.4) was also Secondary Route 87, followed by Secondary Route 451 (SR = 3.7) and Secondary Route 416 (SR = 3.2).

Compared to the statewide averages for rural roads in Montana, roads on the Crow Reservation had much lower crash rates (Table 1). The ratio of crash rates (Montana rural

Figure 1. The Crow Tribe Motor Vehicle Crash Injuries by Year, 1996 - 2009 (2009 reflects a partial year's data).

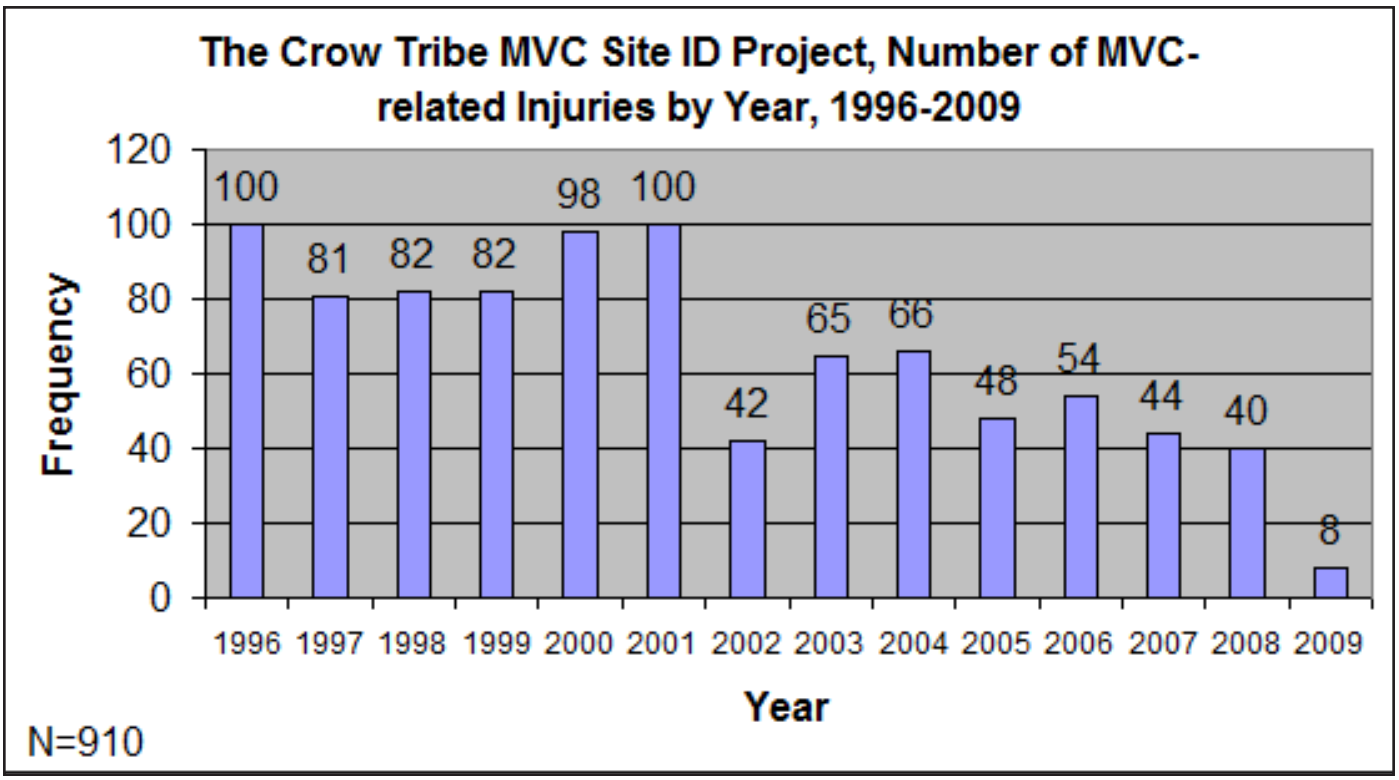
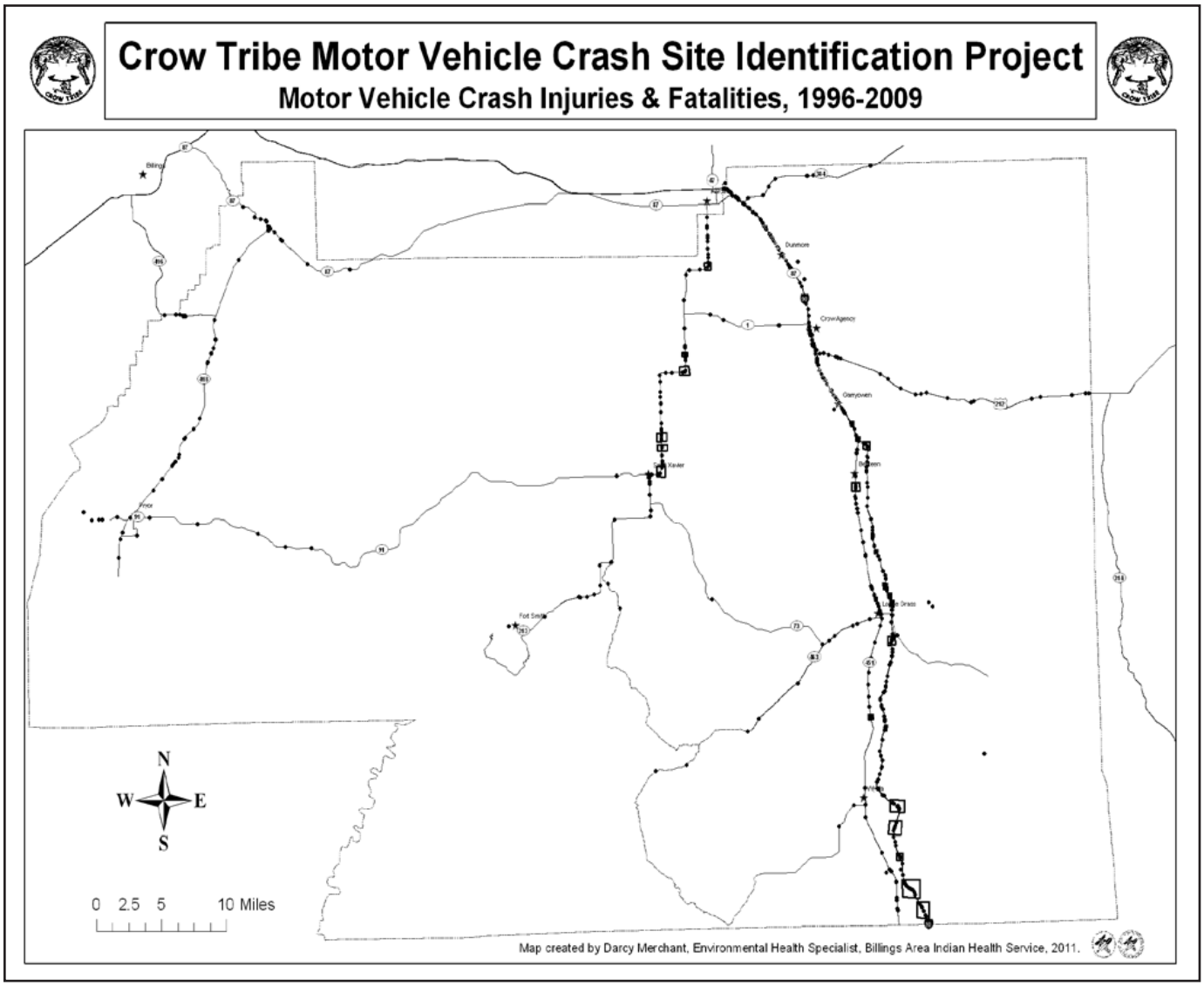


Figure 2. Crow Tribe Reservation Motor Vehicle Crash Cluster Map.



roads: Crow Reservation roads) was 2.8:1 for secondary roads, 5.2:1 for rural Interstate roads, and 7.6:1 for Non-Interstate National Highway System (NINHS) routes. The severity indices, however, were higher for Crow Reservation roads than for rural Montana roads: 1.8:1 for secondary routes, 1.4:1 for Interstate roads, and 1.6:1 for NINHS routes.

Discussion

The Crow roads had much lower crash rates than the statewide average for rural roads, but higher severity indices. The lower crash rates may be due to under-reporting of property-damage-only (PDO) crashes on the Crow Reservation because of understaffing of local law enforcement; and/or unwillingness to report PDO crashes because of lack of insurance, expired licenses, or other disincentives to reporting. The higher severity indices on reservation roads may be due to lower rates of occupant restraint usage (seat belts and child passenger safety seats), excessive speeds, longer emergency response times, or most likely a combination of factors.

The findings of this report represent the best available geographic data on motor vehicle crashes occurring on the Crow Reservation. Nevertheless, this study has several weaknesses. First, the crash data are incomplete. Crow BIA Law Enforcement data were not available for 1996 - 2005 and for the last quarter of 2009. For the MHP reports, data were not available for 2008 and 2009. I did not obtain police reports from the county sheriff's department, which also responds to crashes on a portion of the reservation. Second, the number of MVC fatalities is under-reported in these data, because they are deaths occurring at the time of the crash, not in the first 30 days

Table 1. Motor Vehicle Crash Rates* per Million Vehicle Miles Traveled, Severity Index, and Severity Rate by Roadway Within the Boundaries of the Crow Indian Reservation, 1996 - 2009.

Crow Reservation Roadways, 1996-2009	Crash Rate (CR)	Severity Index (SI)	Severity Rate (CRxSI)
Secondary Route 87	1.1	5.84	6.4
Secondary Route 451	0.77	4.79	3.7
Secondary Route 416	0.6	5.30	3.2
Secondary Route 313	0.48	3.38	1.6
Secondary Route 418	0.39	3.44	1.3
Secondary Route 384	0.2	2.61	0.5
Secondary Route 463	0.14	3.75	0.5
Interstate 90	0.18	2.60	0.5
US Highway 212 (NINHS: Non-Interstate National Highway System route)	0.14	3.38	0.5
Montana Rural Roads**	**Crash Rate (CR)**	**Severity Index (SI)**	**Severity Rate (CRxSI)**
State Secondary	1.47	2.33	3.43
Interstate	0.94	1.87	1.76
NINHS (Non-Interstate National Highway System route)	1.07	2.14	2.29
State Primary	1.22	2.32	2.83

*Includes "property damage only" crashes.
**Source: Montana Department of Transportation, 2010.

succeeding the crash (the definition used in state-reported highway fatalities). Third, the GPS-plotted crash locations had an estimated two-tenths of a mile margin of error because they were based on mile-marker data or public land survey system data, rather than on GPS coordinates recorded by officers at the crash scene.

This project led to a request by the Crow Tribe Department of Transportation (CDOT) in November 2010 for a Road Safety Audit (RSA). An RSA is a formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team.[6] At the Crow Tribe, the team included the CDOT, Crow Bureau of Indian Affairs Law Enforcement Services, Montana Department of Transportation, United States Department of Transportation's Indian Reservation Roads Program, Indian Health Service Injury Prevention program, United Tribes Technical College's Northern Plains Tribal Technical Assistance Program, and various Big Horn county entities. Team members analyzed available data (e.g., single- or multiple vehicle involvement, weather conditions, alcohol involvement, speed, use of occupants restraints); and conducted field review of several tribal road systems, analyzing such characteristics as road width, posted speeds, standard delineation measurements, right of way hazards, pavement markings, traffic signs, and cluster sites.[7] A final report has not yet been issued.

Future approaches to improve the completeness and quality of motor vehicle crash data on tribal roads include the installation of GPS units in police vehicles; and implementing computerized crash reporting via on-board computers. Closer collaboration between the state of Montana and the Crow Tribe could lead to the official recognition by state agencies of seven roadways on the reservation not currently recognized; and joint engineering analysis of crash data to target priority road improvements. The enhanced use of GIS data and mapping is an important step toward reducing motor vehicle injuries and deaths on Crow Tribe roadways.

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AAIP Will Co-Host Annual Meeting with Center for Native and Pacific Health Disparities Research

The Association of American Indian Physicians (AAIP) will partner with the University of Hawai‘i, Center for Native and Pacific Health Disparities Research to co-host the “Advancing Native Health and Wellness” Conference in Anchorage, Alaska. The conference, which will be AAIP’s 41st annual meeting, will be held July 31 - August 5. The two health organizations will hold their annual meetings jointly.

“This will mark the first time Native Hawaiian physicians and American Indian physicians will come together to share research and ideas on Native health and wellness,” said AAIP President Dr. Donna Galbreath. “This unique partnership and opportunity will bring together ideas and opportunities that can help us all better address the multitude of health issues that are critical to our organizations and to indigenous populations.”

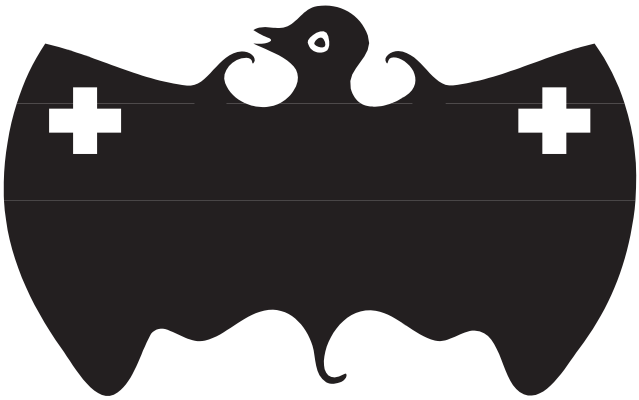
“The gathering of native health care providers and native communities from across the US and the Pacific will provide an opportunity to learn from each other and to join our voices together on critical issues related to native health and wellness,” said Dr. Marjorie Mau, Center for Native and Pacific Health Disparities Research director. “This conference will also embrace cultural practitioners and traditional healers who are key to defining who we are by honoring our past . . . as we move forward to take ownership of our health and wellness — and to be proud of who we are today and into the future.”

Galbreath said topics for the conference will include sessions on traditional healing; workforce diversity in the biomedical and health care field; Native-driven research; social determinants of health; public/private collaborations to address wellness; health disparities in Native communities; models of health care delivery; and community engaged interventions.

“This will be a great opportunity to share best practices for implementing health and wellness initiatives in our Native communities,” Galbreath said.

Physicians, health care professionals, health researchers, and tribal leaders are expected to attend. AAIP, which has close to 400 member physicians, will also partner with the University of Hawaii - Center for Native and Pacific Health Disparities Research to host cultural activities and a fun run/health walk for meeting participants.

For more information or to register to attend, visit the AAIP website at *www.aaip.org* or *www.center4native research.org*, or call (405) 946-7072. You may also contact Jason McCarty, Outreach Coordinator, Association of American Indian Physicians, by e-mail at *jmccarty@aaip.org*; or by Twitter at @AAIPHANC.



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*.

15th International Congress on Circumpolar Health
August 5 – 10; Fairbanks, Alaska

The International Congress on Circumpolar Health (ICCH) is a primary source of information exchange and scholarly communication relating to circumpolar health. Through the ICCH, the International Union for Circumpolar Health (IUCH) creates a forum for circumpolar health professionals (medical scientists, policy and decision makers, Native peoples, and community leaders) to share the research findings and program successes that are unique to northern regions.

From August 5 - 10, 2012, the IUCH will reassemble for the 15th time in Fairbanks, Alaska, United States. Registration is now open for the Congress; you need not be an IUCH member to attend. To register and learn more about the Congress and IUCH, please visit *http://icch15.com/*.

2012 Health Disparities Summit
October 31 – November 3, 2012; National Harbor, Maryland

The US Department of Health and Human Services (HHS), under the leadership of the Office of the Assistant Secretary for Health, the National Institute on Minority Health and Health Disparities (NIMHD) at the National Institutes of Health (NIH), and the HHS Office of Minority Health (OMH), invites you to the 2012 Science of Eliminating Health Disparities Summit (also called the 2012 Health Disparities Summit.) The summit will be held on Wednesday, October 31 through Saturday, November 3, 212 at the Gaylord National Resort and Convention Center in National Harbor, Maryland.

The 2012 Science of Eliminating Health Disparities Summit is an HHS-wide endeavor involving a broad spectrum of the federal government that seeks to advance activities to eliminate health disparities. The agenda will build on the momentum of the 2008 Summit and the increased interest of federal agencies to demonstrate their commitment toward improving the health of all Americans. The 2012 Health Disparities Summit represents an ongoing focus on emerging science and its intersection with practice and policy, while maintaining momentum on current national and international trends in addressing the social determinants of health. For more information, go to *http://www.nimhd.nih.gov/summit_site/*.

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.*

Family Practice Physician
Jicarilla Service Unit; Dulce, New Mexico

The Jicarilla Service Unit (JSU) is a new, beautiful, 65,000 square foot facility nestled in the mesas of northern New Mexico with views of the edge of the Colorado Rockies. We provide care to the Jicarilla ("basket-maker") Apache community with a population of 4,000. Our clinic has an opening for a board certified/eligible family practice physician for purely outpatient care with a 40 hour work week. We also have vacancies for a pharmacist and a nurse. Our site qualifies for NHSC, IHS and state loan repayment programs. JSU has a fully functional electronic health record system. Our pharmacy has a robust formulary including TNF-alpha inhibitors and exenatide. The clinic also has an urgent care clinic for acute walk-in cases. We have adopted the IPC model with care teams. Our staff currently consists of four family practice physicians, an internist, an optometrist, and three dentists. We also have a team of dedicated public health nurses who specialize in home visits for elders and prenatal follow-up. The Jicarilla Apache Nation is self-sufficient with profits from oil and natural gas. Much has been invested in the infrastructure of the reservation, including a large fitness facility, a modern supermarket, a Best Western Hotel and Casino, and more.

We are also located 45 minutes from the resort town of Pagosa Springs, which has year-round natural hot springs and winter skiing at renowned Wolf Creek Pass. We welcome you to visit our facility in person. To take a video tour of the Nzh'o Na'ch'idle'ee Health Center online, go to *http://www.usphs.gov/Multimedia/VideoTours/Dulce/default.aspx*. Please call Dr. Cecilia Chao at (575) 759-3291 or (575) 759-7230; or e-mail *cecilia.chao@ihs.gov* if you have any questions. (6/12)

Family Practice Physician (1)
Physician Assistant or Family Nurse Practitioner (2)
United Indian Health Services, Inc. (UIHS),
Howonquet Clinic; Smith River, California
and
Family Practice Physician (1)
UIHS, Potawot Health Village; Arcata, California

UIHS is a premier health care organization located in beautiful northern California along the Pacific coast near the majestic redwoods. The organization is a unique nonprofit made up of a consortium of nine tribes, with a mission "To work together with our clients and community to achieve wellness through health services that reflect the traditional values of our American Indian Community." UIHS provides wraparound services that include medical, dental, behavioral health, and community services. Our focus is to empower our clients to become active participants in their care. If you value outdoor adventures such as backpacking, kayaking, biking, fishing, and surfing, and you envision yourself providing services to an underserved but deserving community in a caring and holistic manner, come join our team. Please visit our website at *www.uihs.org* or contact Trudy Adams for more information at (707) 825-4036 or email *trudy.adams@crihb.net*. (5/12)

Central Scheduler
Medical Clinic Manager
Human Resources Director
Psychiatrist
Physician (Internal Medicine or Family Practice)
Consolidated Tribal Health Project, Inc.;
Calpella, California

Consolidated Tribal Health Project, Inc. is a 501(c)(3) non-profit, ambulatory health clinic that has served rural Mendocino County since 1984. CTHP is governed by a board comprised of delegates from a consortium of nine area tribes, eight of which are federally recognized, and one that is not. Eight of the tribes are Pomo and one is Cahto. The campus is situated on a five-acre parcel owned by the corporation; it is not on tribal land.

CTHP has a Title V Compact, which gives the clinic self governance over our Indian Health Service funding allocation. An application for any of these positions is located at *www.cthp.org*. Send resume and application to Karla Tuttle, HR Generalist, PO Box 387, Calpella, California 95418; fax (707) 485-7837; telephone (707) 485-5115 (ext. 5613). (5/12)

Hospitalist
Gallup Indian Medical Center; Gallup, New Mexico

Gallup Indian Medical Center (GIMC) is currently seeking energetic and collegial internists for our new hospitalist program. The hospitalists care for all adult inpatients previously taken care of by family medicine and internal medicine physicians, and provide consultation services. We have seven FTEs for hospitalists, and while we are still growing, we enjoy further inpatient staffing support from internal medicine and family medicine.

GIMC is a 99-bed hospital in Gallup, New Mexico, on the border of the Navajo Reservation. Clinical specialties at GIMC include internal medicine, family medicine, critical care, cardiology, neurology, orthopedics, ENT, radiology, OB/GYN, general surgery, ophthalmology, pathology, pediatrics, emergency medicine, and anesthesiology. The hospitalists' daily census is approximately 25 - 30. There is a six bed ICU. Our patient population includes Navajos, Zunis, and others living nearby, as well referrals from smaller clinics and hospitals.

Gallup has a diverse community and is very livable, offering a thriving art scene, excellent outdoor activities (biking, hiking, rock climbing, cross-country skiing), safe neighborhoods, diverse restaurants, national chains and local shops, and multiple public and parochial school options. The medical community is highly collegial, is committed to continuing education, has an on-going collaboration with Brigham and Women's Hospital, and has a high retention rate.

For more information, contact Eileen Barrett, MD, at (505) 722-1577 or e-mail *eileen.barrett@ihs.gov*. Or please consider faxing your CV to (505) 726-8557. (4/12)

Wellness Center Director
Nurse Practitioner
Chehalis Tribal Wellness Center; Oakville, Washington

The Chehalis Tribal Wellness Center provides health services to tribal and community members living on or near the reservation. The Chehalis Tribal Wellness Center is located on the 4,849 acre Chehalis Reservation in southwest Washington State. The Chehalis Reservation is situated approximately 26 miles southwest of Olympia and six miles northwest of Centralia. Services include ambulatory medical services, dental services, women's health, diabetes prevention and treatment, and contract health services. The facility has 12 exam rooms, a triage and trauma area, digital radiology, laboratory services, and a large dental clinic. The Chehalis Tribal Wellness Center is a full-service family practice clinic that has been serving Chehalis tribal members since 1979. If you would like further information about current clinical job opportunities with us, please contact Sylvia Cayenne at (360) 273-5911 or visit our website at *chehalistribe.org*. (2/12)

Physician
Nimkee Memorial Clinic; Mount Pleasant, Michigan

The Saginaw Chippewa Indian Tribe is seeking a full time physician. The Saginaw Chippewa Indian Tribe (SCIT) is a band of Chippewa Indians located in central Michigan. The tribal government offices are located on the Isabella Indian Reservation, near the city of Mount Pleasant. The tribe owns and operates Soaring Eagle Casino in Mount Pleasant. SCIT also holds land on the Saganing reservation near Standish, with a community center in addition to the recently completed Eagle's Landing Casino on the Saganing reservation.

Besides its gaming enterprises, the tribe owns other businesses and community operations, including the Sagamok Shell Station, the Ziibiwing Cultural Society (a tribal museum), a substance abuse facility, a community clinic, and health facilities. Educational programs include the Saginaw Chippewa Academy (an elementary school), as well as a presence in the local public schools through Native American advocates and tutors. Saginaw Chippewa Tribal College is an accredited two-year college that operates with funding from the tribe.

Nimkee Memorial Clinic is open Monday through Friday from 8 am to 5 pm and is located on the Isabella Reservation. Local hospital services are provided through McLaren Central Hospital. The Nimkee Medical Clinic employs five providers, including two family practice physicians, one internist, a family nurse practitioner and a physician assistant. Nimkee Clinic also includes an on-site pharmacy.

The clients served are members and direct descendants of the SCIT and members of other US federally recognized Indian tribes residing in a five county service area including Isabella, Clare, Midland, Missaukee and Arenac counties. The tribal physician plays an essential part in the comprehensive, quality health care delivered in a holistic approach, to prevent disease and to promote wellness in the Native American community served. Ambulatory care services are provided to people of all ages and include general clinic visits of various levels of care, health promotion and disease prevention, immunization clinics, men's health clinics, women's health clinics, diabetes management, and pharmacy.

Interested applicants may apply for the position and upload a resume and credentials using the website at *www.sagchip.org*. The full job description will be available to view on the website as well. Any questions in regards to this position, please contact Kassy Heard at (989) 775-5605 or *kheard@sagchip.org*. (2/12)

Urgent Care Family Medicine Physician
Northern Navajo Medical Center; Shiprock, New Mexico

The Urgent Care Clinic at Northern Navajo Medical Center in Shiprock, New Mexico has an opening for a BE/BC family medicine physician. Shiprock is located just south of Colorado with close proximity to the Four Corners area and the Rocky Mountains. This is a fast-paced urgent care clinic with over 35,000 patient visits per year. Work with a team of six physicians and nine physicians assistants caring for the Navajo people. The schedule is flexible, there is no call, and the salary is competitive with the addition of IHS Physician Market Pay. Loan repayment is available through IHS and NHSC. If you are interested in learning more about this excellent opportunity please e-mail *nancy.kitson@ihs.gov* and attach your CV. (2/12)

Primary Care Physician
Zuni Comprehensive Community Health Center;
147 Assuming Coordination of an Established Clinic, Established Staff, and Ingrained Culture
Zuni, New Mexico

The Zuni Comprehensive Community Health Center (Zuni-Ramah Service Unit) has openings for full-time primary care physicians starting in fall 2012. This is a family medicine model hospital and clinic providing the full range of primary care, including outpatient continuity clinics, urgent care, emergency care, inpatient (pediatrics and adults) and obstetrics, with community outreach, in a highly collaborative atmosphere. For a small community hospital, we care for a surprisingly broad range of medical issues. Our professional staff includes 17 physicians, two NPs, one CNM, a podiatrist, dentists, a psychiatrist, a psychologist, optometrists, physical therapists, and pharmacists. Our patient population consists of Zunis, Navajos, and others living in the surrounding area.

Zuni Pueblo is one of the oldest continuously inhabited American Indian villages in the US, estimated to be at least 800 - 900 years old. It is located in the northwestern region of New Mexico, along the Arizona border. It is high desert, ranging from 6000 - 7000 feet in elevation, and is surrounded by beautiful sandstone mesas and canyons with scattered sage, juniper, and pinon pine trees. Many of our medical staff have been with us for several years, reflecting the high job and lifestyle satisfaction we enjoy in this community.

For more information, contact John Bettler, MD at (505) 782-7453 (voice mail), (505) 782-4431 (to page) or by e-mail at *john.bettler@ihs.gov*. CVs can be faxed to (505) 782-7405, attn. John Bettler. (1/12)

Family Practice Physician (3)
Family Nurse Practitioner (2)
Emergency Medicine Physician (4)
San Carlos Service Unit; San Carlos, Arizona

San Carlos Service Unit is recruiting for board certified/eligible emergency room and family practice physicians to join our experienced medical staff team. Additionally, we are recruiting for family nurse practitioners. We are located approximately 90 miles east of Phoenix.

The San Carlos Service Unit is the primary source of health care for approximately 13,000 people of the San Carlos Apache Nation. The service unit is a Joint Commission fully accredited eight-bed hospital and outpatient services facility with a satellite clinic. Clinical services include family medicine, pediatrics, internal medicine, prenatal and women's health, dental, optometry, physical therapy, nutrition and dietetics, social work services, and diabetes management education.

Currently there is a new hospital under construction that is scheduled for completion in the later part of 2013 or early 2014. We offer competitive salary, relocation/recruitment/retention allowance, federal employment benefits package, and loan repayment. For more information, please contact Richard Palmer, MD, SCSU Clinical Director at (928) 475-7201 or by e-mail at *richard.palmer@ihs.gov*. (1/12)

Family Practice Physician
Family Nurse Practitioner
Physician Assistant
Registered Dietician (Renal)
Toiyabe Indian Health Project, Inc.; Bishop, California

Toiyabe Indian Health Project is seeking qualified applicants to fill provider vacancies within the organization. We are looking for highly motivated candidates who are California licensed/Board certified and ready to join our team of providers. We offer competitive pay, an excellent benefits package including health insurance, life insurance, long-term disability insurance, 401k, CME, vacation and sick leave, paid holidays, and relocation assistance. Toiyabe is located in the Eastern Sierra Region of California, with abundant outdoor recreational activities such as hiking, biking, skiing, rock climbing, fishing, camping, etc. There are small communities, safe neighborhoods, and great schools/day care facilities. If interested in applying, please contact Sara M. Vance, Personnel Officer, at (760) 873-8464, ext. 224; e-mail *sara.vance@toiyabe.us*; or visit our website at *www.toiyabe.us* for complete job descriptions and applications. (12/11)

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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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