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Hepatitis C Prevalence in a Native American Reservation Clinic: Impact of a Screening and Monitoring Program

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Abstract

Purpose: The purpose of this project was to develop a comprehensive hepatitis C program in a rural Native American clinic in which no concrete screening or monitoring protocol exists.

Background: In the US, approximately 3.9 million individuals are living with a hepatitis C virus (HCV) infection that causes chronic liver disease. Most infected individuals are unaware they are infected and therefore do not participate in monitoring or follow up care. The Native American is a high-risk population that has a four times greater proportion of deaths caused by chronic liver disease than the overall US population.

Methods: In a rural Native American reservation clinic, an intensified screening protocol was implemented. Once identified, HCV positive individuals were enrolled in a monitoring program that provided education and evaluated alcohol abuse, depression, liver disease progression, and screening for hepatocellular carcinoma (HCC).

Results: A total of 46 individuals were screened with the HCV antibody testing, compared to 33 screenings completed three months prior to the project initiation. There were two new HCV diagnoses discovered during this screening period. There were a total of thirty HCV individuals out of 2016 (1.4%) active adult patients in the clinical system who were identified as HCV positive. The most prominent age cohort with the HCV infection was ages 29 - 39 (3.0%). There was a 50% (15/30) compliance rate with completing the HCV monitoring portion of the project. Of those individuals monitored, alcohol abuse screening was positive in 53% (8/15); depression screening was positive in 33% (5/15); liver

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disease screening demonstrated that 26% (4/15) had significantly elevated serum liver function tests; and HCC screening was positive in 13% (2/15), which warranted liver ultrasound testing.

Conclusions: Increased HCV screening is appropriate in this high risk population to facilitate early detection, subsequent education, and medical monitoring of these individuals. Efforts to increase compliance of monitoring in HCV positive individuals are valuable to their health outcomes.

Introduction

In the US, approximately 3.9 million individuals are living with a hepatitis C virus (HCV) infection that causes chronic liver disease and various other health manifestations. Most infected individuals are unaware they are infected and therefore do not participate in monitoring or follow up care.1 This fact is even more alarming for the Native American population , who have four times greater proportion of deaths caused by chronic liver disease than the overall US population.[2] Hepatitis C had an increase of 241% in the Native American population from 1995 - 2004.3 The Centers for Disease Control and Prevention (CDC)1 now recommends all individuals born during 1945 - 1965 undergo a one-time routine HCV screening. Native American clinics, particularly on rural reservations, should implement a specific screening and monitoring program due to increased prevalence and risk factors for hepatitis C compared to the overall US population.

The purpose of this project was to develop a comprehensive hepatitis C program in a rural Native American clinic in which no concrete screening or monitoring protocol exists. The program aimed to determine the prevalence of HCV in a rural Native American population. Prevalence was identified through screening parameters and monitoring that was specific to the cultural needs of the population. Monitoring was defined as the care received after the individual tested positive for HCV, which consisted of education, counseling, and medical testing. The study questions are as follows:

1. Was there an increase in HCV screening in this rural Native American clinic?
2. Among persons identified, was there significant compliance in the monitoring portion of the HCV program?
3. Does HCV testing improve health outcomes for persons infected with HCV?
4. Was there improved monitoring, documentation, and follow up for patients diagnosed with chronic HCV?

Problem Significance

According to the CDC,[1] HCV is causing an increase in morbidity and mortality in the US, with an estimated 17,000 newly diagnosed individuals in 2010. HCV is a chronic infection that can lead to cirrhosis, hepatocellular carcinoma (HCC), and other non-liver related health complications that develop over time. Furthermore, those born during 1945 - 1965 account for 75% of all adult chronic HCV infections. This age cohort is now considered an additional risk factor, indicating a need for HCV testing.

The Native American population is at an even higher risk for HCV due to recent health trends and disproportional risk factors. The CDC1 considers intravenous drug use and intranasal cocaine use to be significant risk factors warranting HCV testing. According to data collected from the Indian Health Service (IHS),[4] chronic liver disease and cirrhosis were the causes of mortality in 84 per 100,000 deaths compared to 18 per 100,000 deaths for all other US races. Native Americans also have a high drug related death rate of 237 compared to 9.9 per 100,000, as well as a high alcohol related death rate which is over six times the rate for all US races.

Furthermore, these high rates of substance abuse predispose this population to a greater risk for the development of depression.[5] Depression is the third most common adverse effect of the HCV infection, reported by 70% of HCV infected patients, preceded by physical fatigue and irritability. The prevalence of depression is reported to be much higher in HCV infected individuals when compared to the general population.[6] Native Americans experience higher rates than all races in psychological distress as well as feelings of sadness, hopelessness, worthlessness, nervousness, restlessness, and suicide.[7] These substance abuse and depression health trends place Native Americans at a higher risk for HCV transmission, poorer health outcomes, and an increased need for HCV screening and monitoring. Therefore, it is imperative that substance abuse and depression screening play a major role in any HCV program.

The area under study for this project was an Indian reservation in the US, with a population of approximately 1,810.[8] Data from the county where the reservation is located indicate Native Americans have a 50% higher death rate than the state average, with 84% of these deaths related to substance abuse.

The Native American population on this reservation demonstrates alarming risk factors that require a comprehensive HCV program. According to the local primary care clinic's electronic health record, the original active patient list consisted of 2,016 individuals over 17 years of age. Furthermore, only 16 individuals on the entire active patient list had a diagnosis of HCV positive. Based on the substance abuse statistics, it was determined that a significant number of individuals were being missed and were unaware of a positive HCV infection.

The fiscal ramifications of undetected and unmonitored HCV infection can become monumental. It is estimated that antiviral medication costs for one individual infected with HCV can be up to $12,799 per month.[9] These costs increase dramatically with the onset of complications. Furthermore, HCV is the leading cause of HCC and liver transplantation,

which are extraordinarily expensive conditions.[1] Proper awareness, education, counseling, and medical monitoring could improve the outcomes for these patients and prevent unneeded expense to the tribe. Currently, the tribe does not pay for hepatitis C antiviral treatment for individuals without insurance, which is the majority. However, antiviral therapy is not always recommended for all patients due to the expense, difficult side effects, and patient compliance with treatment and alcohol reduction. Monitoring can assess disease progression, direct medical care, and guide education without the extreme expense that is involved in antiviral treatment.[10]

Conceptual Framework

The framework for this project was Younger's theory of mastery of stress.[11] The ultimate goal of the theory is to demonstrate how individuals who experience a stressful health condition may emerge stronger, instead of feeling demoralized and discouraged. The defining characteristics of this theory of mastery involve a sense of control over a vulnerable situation, prevention of the situation recurring, recovering self-esteem, and finding alternate forms of satisfaction. These characteristics enable the individual to gain competency and control over the experience. Conversely, the absence of mastery of a stressful health condition can result in fear, passive behavior, low self-esteem, and alienation. For this project, the theory of mastery of stress can assist individuals to take control of their diagnosis. Through screening, education, and medical monitoring, the individual can gain a sense of mastery over HCV. Based upon the principles of this theory, future events may be viewed as less threatening, and this change of mind is advantageous for this population.

Literature Review

According to the CDC,[1] Hepatitis C is a growing cause of morbidity and mortality, with an estimated 3.9 million persons living with the virus in the US. HCV is a bloodborne virus that causes a chronic infection in 75% - 85% of infected persons. This places them at risk for liver cirrhosis, hepatocellular carcinoma (HCC), and extrahepatic conditions, all of which typically develop over many years following the onset of the infection. Because the disease can exist for several years before signs and symptoms are present, a majority of individuals are unaware they are infected until later in the disease process. HCV is the leading indication for liver transplantation and the primary cause of HCC, with 15,106 HCV reported deaths in 2007. Approximately 17,000 individuals were newly diagnosed in 2010, with the highest overall prevalence among those born between 1945 - 1965.

The CDC recommends all individuals undergo a one time routine HCV screening (through HCV antibody blood testing) if any of the following risk factors apply: Individuals born during 1945 - 1965, past or present intravenous drug use, recipients of clotting factor concentrates produced before 1987, on long-term hemodialysis, intranasal cocaine use, tattooing and body piercing, persistently abnormal alanine aminotransferase levels (ALT), recipient of transfusions or organ transplant who were notified they received blood from a donor who later tested positive for HCV infection, and those who received a transfusion of blood, blood components, or an organ transplant before July, 1992.

A comprehensive literature review reveals there is limited current information regarding comprehensive HCV programs existing at Native American clinics nationwide. It remains clear that a concrete screening protocol is extremely important due to the occult course of the disease for decades prior to experiencing the detrimental health effects. This ignorance can lead to a worsening of HCV associated liver disease through poor lifestyle choices. Regular alcohol consumption can accelerate the progression of HCV related diseases and complications.[1] Neumeister[12] conducted a screening study in an urban Native American clinic to determine the prevalence of HCV in a local Native American population. The authors concluded that HCV prevalence is higher in a Native American clinic population than in the general US population, with intravenous drug abuse being the most prominent risk factor. As previously discussed, the Native American population has disproportional alcohol and substance abuse rates. Therefore, it is imperative that HCV infection awareness and lifestyle education are essential aspects of any program.[1]

Other complications associated with chronic HCV infection include insulin resistance and an elevated body mass index (BMI) of greater than 25.[13] This is concerning considering the prevalence of obesity in the Native American population has increased dramatically over the past 30 years. According to the IHS Clinical Reporting System, 14 over 80% of Native American adults ages 20 to 74 are overweight or obese. Native Americans also have the highest rates of type 2 diabetes in the US.[15] It is crucial that health education and lifestyle changes address these issues.

Education regarding behavior changes, counseling, and regular medical monitoring can improve health outcomes for HCV infected individuals.[1] Patients who are not undergoing antiviral treatment of HCV should be followed regularly. A monitoring program should include the administration of the Hepatitis A and B vaccinations. The disadvantages of invasive procedures, such as a liver biopsy, have been noted in the literature in recent years by the European Association for the Study of the Liver[13] due to the invasiveness, expense, and risk of this procedure. As an alternative, the extent of liver disease can be assessed by non-invasive methods including a combination of blood testing, clinical assessment, and imaging. Current evidence in the literature supports the notion that screening and follow up care of HCV is not only needed in the general population, but is pertinent to improved patient centered outcomes in the Native American population.

Materials and Methods

Design. The HCV program began with staff and public

education. A meeting with all clinical staff was held to introduce the proposed HCV framework (Appendix A). The clinical staff was educated on CDC educational materials, monitoring checklists, and alpha fetoprotein (AFP) guidelines and protocols (Appendices B, C, & D). The AFP blood test is a marker used to screen for the development of HCC. The HCV framework, checklists, and AFP guidelines were created utilizing the information available from the Alaska Native Tribal Health Consortium[16] (ANTHC) hepatitis program and the CDC. The alcohol abuse (Appendix E) and depression screening (Appendix F) tools were utilized as integral aspects of the HCV monitoring portion. Educational posters, pamphlets, and fact sheets obtained from the CDC were displayed in the clinic and waiting room. These materials highlighted the need for screening and identification of risk factors.

The HCV antibody screening blood testing was incorporated into the patients' routine laboratory blood tests if they were born during 1945 - 1965. The patients were notified of the CDC recommendations for this one time HCV antibody screening and they were provided the opportunity to decline this test. The remaining screening tests were at the discretion of the clinical provider who determined if the patient had other remaining HCV risk factors.

In the U.S., approximately 3.9 million individuals are living with a hepatitis C virus (HCV) infection that causes chronic liver disease and various other health manifestations. Most infected individuals are unaware they are infected . . .

The monitoring portion of the program included newly diagnosed individuals as well as previously diagnosed HCV positive individuals. Newly diagnosed individuals began the protocol specified in the HCV framework. Individuals with a current diagnosis, as indicated by the clinic's electronic health record report, were contacted to begin the monitoring portion of the program. A current list of all screened and monitored patients was maintained. Finally, an institutional policy (Appendix G), approved by the clinical providers, Director of nursing and medical director was developed.

Sample. This project utilized a convenience sample, and data were collected for three months. Eligible participants were age 18 or older, able to read and communicate in the English language, not under the influence of alcohol or illicit drugs during clinic visits, and eligible for health services at this tribal facility. All participants were protected through strict confidentiality measures, utilizing HIPAA laws and regulations.

Measures. Outcomes associated with the implementation of the HCV program included the following: 1) increased screening and identification of HCV in the community, 2) compliance with HCV monitoring, 3) earlier identification or worsening of alcohol abuse, depression, liver disease, or HCC, and 4) improved follow up documentation of patients with a HCV infection. Achievement of outcomes was evaluated using specific tools and processes.

The clinic's electronic health record (EHR) reporting system was utilized to determine if there was an increase in screening in the community. Compliance with monitoring and improved follow up documentation was measured utilizing the checklists. The checklists served to identify which aspects of the monitoring program were completed, displaying compliance and noncompliance with follow up care.

Health outcomes were measured utilizing screening tools, lab values, and clinical guidelines. Alcohol abuse was measured using the CAGE questionnaire. The CAGE questionnaire consists of four questions and is a widely used screening instrument for detecting alcohol abuse and dependence in clinical practice.[17] The answers to the questions are scored 0 for "no" and 1 for "yes." A total score of 2 or greater is indicative of alcohol dependence or abuse and indicates the need for further assessment. The CAGE screening demonstrates high test-retest reliability (0.80-0.95) and sufficient correlations (0.48-0.70) with other alcohol abuse screening instruments.[18] Scores from the CAGE questionnaire were used to identify alcohol dependence and guided the need for referrals.

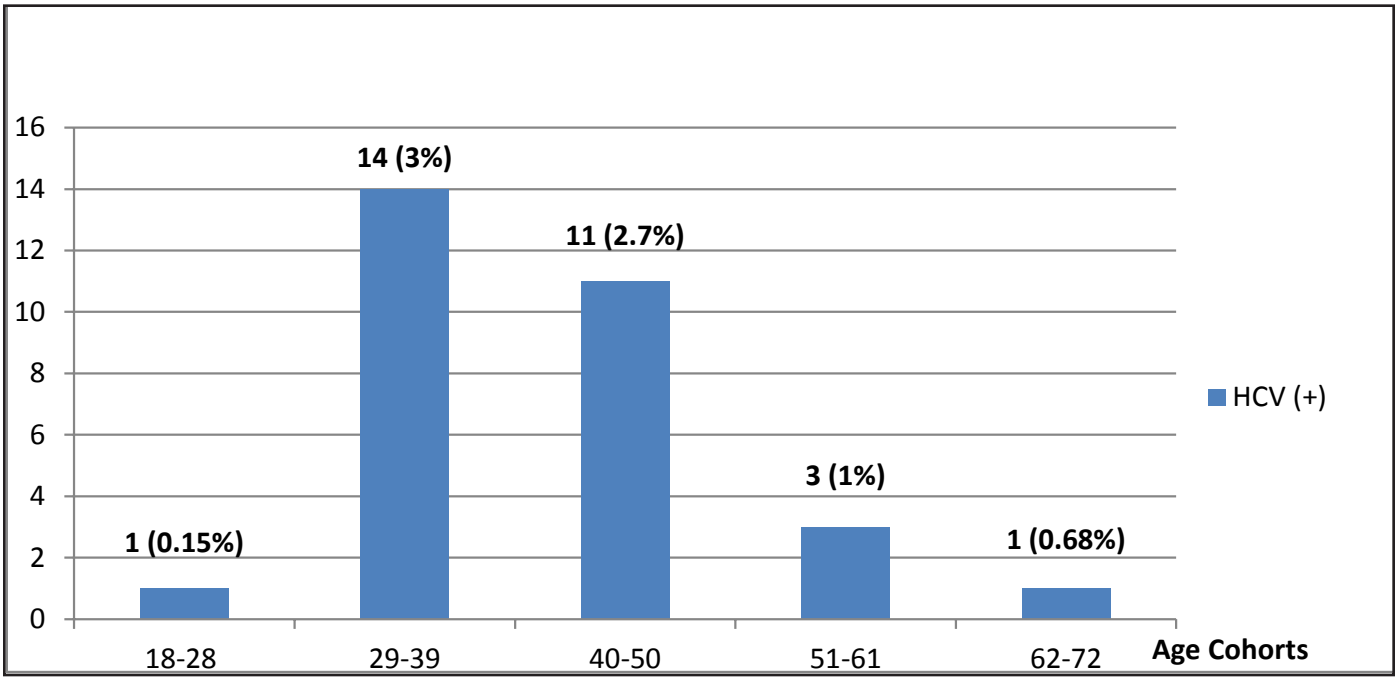
Depression was measured using the PHQ-9 depression scale. The PHQ-9 is a reliable and valid instrument utilized to measure depression severity.[19] The PHQ-9 has 9 questions that are based on the diagnostic criteria for depressive disorders in the *DSM-IV*. The PHQ-9 score ranges from 0 to 27, with cutoff points of 5, 10, 15, and 20 denoting mild, moderate, moderately severe, and severe depression.[20] The clinic under study had been previously utilizing this depression scale to screen patients once a year during their routine clinic visit appointments. The prior PHQ-9 scores were compared to the HCV program depression scores when possible. If no previous results were available, the depression screening was used as a baseline. Scores from the PHQ-9 were utilized to identify depression, plan and initiate treatment, and generate referrals.

Liver disease severity and HCC screening were measured based on laboratory testing. Depending on the results, the AFP and liver ultrasound guidelines were initiated. The protocol checklists and EHR reporting system provided documentation and reports to track these outcomes.

Results

During the three-month project, outcome data revealed an

Table 1. HCV prevalence by age



increase in screening and improved identification of HCV. A total of 46 individuals were screened with the HCV antibody testing, compared to 33 screenings completed three months prior to the project time frame. Two new HCV diagnoses were identified during this screening period. The accurate prevalence of HCV in the community was also clarified. An outdated list of individuals thought to possibly have the chronic HCV infection was reviewed. No concrete evidence to verify the diagnosis of these individuals existed. This original HCV list consisted of 52 individuals with an unconfirmed diagnosis. Sixteen (30%) of these individuals were HCV negative through a review of laboratory data. There were eight patients (15%) with questionable lab results, and these patients verbalized uncertainty of their HCV status. Repeat HCV blood testing revealed all eight patients were negative for chronic HCV infection. A final total of 30 individuals tested positive for HCV out of 2016 (1.4%) active adult patients in the clinical electronic health record system. The most prominent age cohort with the HCV infection was ages 29 - 39 (3.0%), followed by ages 40 - 50 years old (2.7%). Table 1 reveals the age distribution of active patients in the community with the HCV infection.

Outcome data also revealed a 50% (15/30) compliance rate with completing the HCV monitoring portion of the project. These individuals had never received a formal education and medical monitoring session related specifically to their HCV condition. Two individuals admitted they were unaware their HCV testing demonstrated a positive result. All individuals who participated in the monitoring had IV drug abuse as their primary risk factor for HCV transmission.

Earlier identification or worsening of alcohol abuse, depression, liver disease, and HCC was achieved. CAGE screening, indicating alcohol dependence, was positive in 53% (8/15) of the individuals who were monitored. Of these positive CAGE screenings, two individuals did achieve sobriety for the last two months of the three month period. One individual was referred for alcohol rehabilitation and was admitted to a program. The remaining five individuals were able to verbalize understanding of the relationship between alcohol abuse and disease progression. The PHQ-9 screening identified depression in 33% (5/15) of the HCV positive individuals. Two were started on antidepressant medication therapy and were never treated prior to this screening. Two individuals agreed to a mental health counseling referral and the one remaining individual was already attending counseling and declined medication treatment. Finally, 26% (4/15) of individuals had significantly elevated serum liver function tests. These patients received lifestyle modification education. Hepatocellular carcinoma screening was positive in 13% (2/15) of the HCV positive patients. Of these two individuals, one had an AFP of 10 requiring a liver ultrasound which was normal and will receive serial AFP levels every three months until this level normalizes. The second individual had an AFP level of 18 and a liver ultrasound referral was made, however, this patient has not had testing completed.

Final outcome data revealed that improved HCV follow up

documentation was accomplished. The HCV framework and AFP screening algorithms were developed and utilized by all clinical staff throughout the project process. A 100% completion rate was attained in the documentation of the HCV monitoring in a setting where previously no standardized documentation existed. All education, care, results, and follow-up plans were documented on the specific patient checklists and in the electronic health record. A current and accurate HCV patient list was created and provided to all clinical staff members. A finalized hepatitis C program policy was developed and approved by clinical administration.

Discussion

As previously discussed, HCV may exist for many years without symptoms. Increased HCV screening is appropriate in this high risk population to facilitate early detection, subsequent education, and medical monitoring of these individuals. Efforts to increase compliance of monitoring in HCV positive individuals are critical to positive health outcomes. Knowledge regarding lifestyle modification, transmission, depression, alcohol abuse, HCC, and progression of the disease can provide a pathway for change as well as empower patients to take control over their own personal health goals and maintenance. A standardized documentation and follow up system ensures HCV positive individuals will be properly assessed for changes in their conditions and continually educated regarding their disease.

HCV screening and monitoring programs in Native American communities are scarce. Primary care providers in these communities can improve their care through screening protocols and regular monitoring. Through organized and methodical efforts, providers in Native American reservation communities can improve the health outcomes for HCV positive individuals through unique and individualized plans of care. This project provided opportunities for early interventions in the care of HCV infected patients. This could be modified to address specific needs in other communities beyond Native Americans. With the CDC now recommending all individuals undergo a one-time HCV screening, an increased public awareness of HCV may be on the horizon. Programs such as this could be tailored to monitor a variety of individuals on many different levels.

Project limitations included a small number of individuals participating in the program and a short duration of three months. However, the findings do imply that there is a true clinical need for refined HCV care in Native American communities, regardless of size. Furthermore, nursing education has an opportunity to recognize the current HCV disparity and prevalence in certain populations. Educators should provide ample education to students regarding screening, monitoring, and treatment options for all individuals. It is recommended that these findings serve as the foundation for future studies by following a larger population of HCV individuals with specific age group comparisons for an extended length of time. This could provide abundant data to accurately determine the extent of the program impact on their health outcomes.

The prevalence of chronic hepatitis C in an adult Native American community is highest among 29 - 39 year old adults, with IV drug abuse being the primary risk factor. A hepatitis C screening and monitoring program can have a positive effect on health outcomes with this population. Depression, alcohol dependence, liver disease progression, and HCC screening are identifiable through this program. Individuals with HCV in this community have high rates of depression and alcohol dependence. Early interventions and lifestyle education are critical to improve the quality of life and care of HCV positive Native Americans.

Acknowledgements

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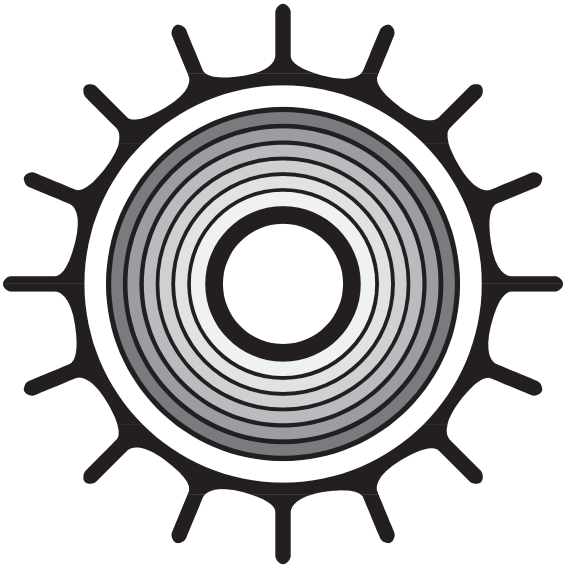
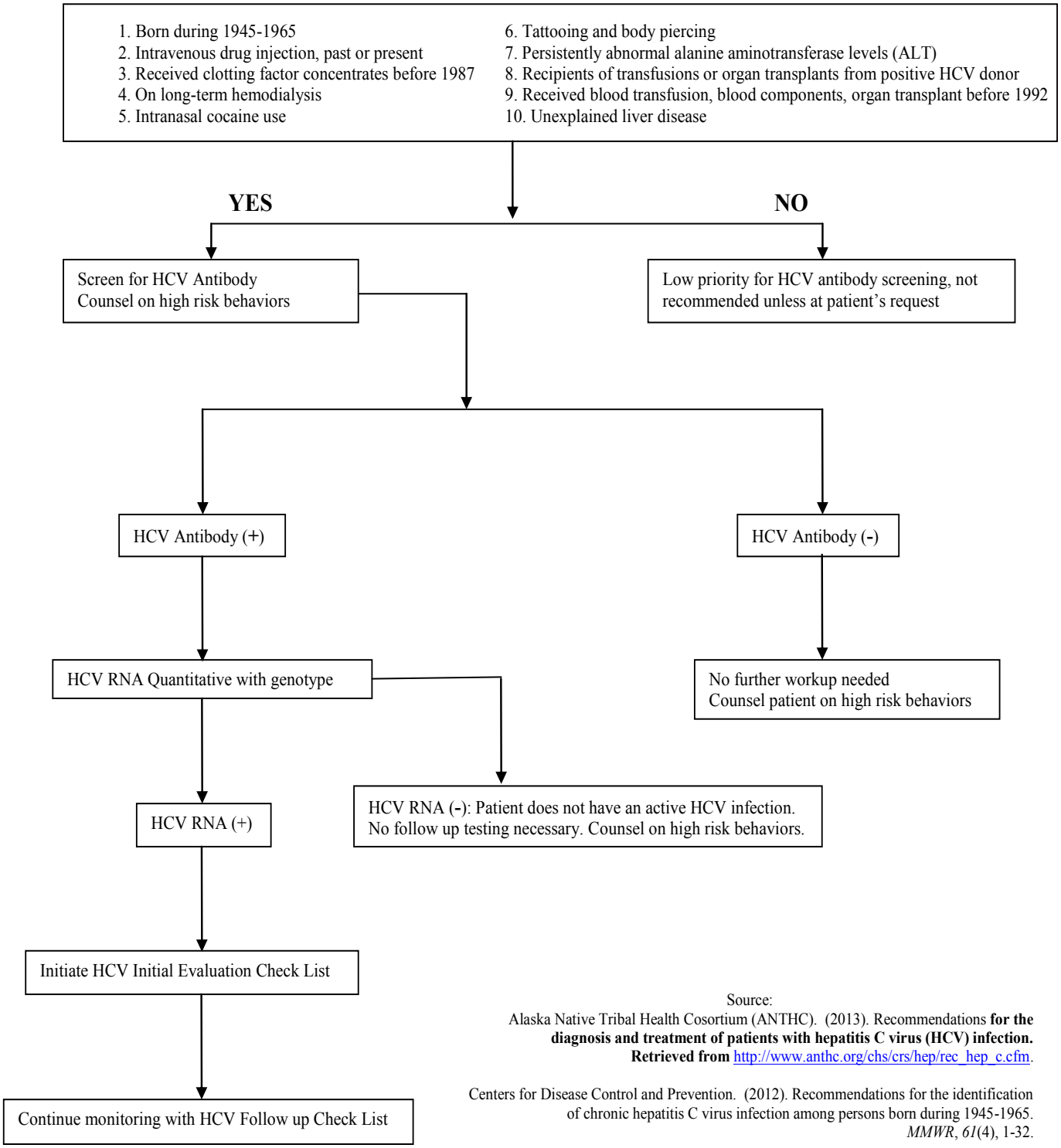


Appendix A

Hepatitis C Virus (HCV) Framework

PRESENCE OR HISTORY OF ANY OF THE FOLLOWING:



Source:

Alaska Native Tribal Health Cosortium (ANTHC). (2013). Recommendations **for the diagnosis and treatment of patients with hepatitis C virus (HCV) infection. Retrieved from** http://www.anthc.org/chs/crs/hep/rec_hep_c.cfm.

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Appendix B

HCV Initial Evaluation Check List

Evaluation	Completed		Staff Signature	Comments
	Yes	No		
Labs (if not done in past 6 months): CMP *AFP CBC UA HBsAg HIV **PT/INR	Date _____			
Alcohol Abuse Screening: CAGE questionnaire	Date _____			
Referral drug/alcohol treatment	Date _____			
Depression Screening: PHQ-9	Date _____			
Referral to Mental Health Counseling	Date _____			
BMI >25	Date _____			
Physical Exam	Date _____			
Education on Hepatitis C infection, healthy lifestyle, transmission	Date _____			
Hepatitis A Vaccination Started	Date _____			
Hepatitis B Vaccination Started	Date _____			
Request to scheduler to make f/u in 2 months	Date _____			

*If AFP elevated, see AFP/Ultrasound guidelines
**PT/INR if cirrhosis suspected

Source: Checklists developed utilizing recommendations from:
Alaska Native Tribal Health Cosortium (ANTHC). (2013). Recommendations **for the diagnosis and treatment of patients with hepatitis C virus (HCV) infection. Retrieved from** http://www.anthc.org/chs/crs/hep/rec_hep_c.cfm.

Appendix C

HCV Monitoring Follow Up Check List

Evaluation	Completed	Staff Signature	Comments
2 MONTH FOLLOW UP APPOINTMENT:			
1. Discuss the following: a. Changes in lifestyle b. Answered referrals c. Further education liver	Date:_____		
2. Second Dose of Hepatitis B Vaccination	Date:_____		
3. Request to scheduler to make f/u in 4 mos	Date:_____		
6 MONTH FOLLOW UP APPOINTMENT:			
1. Repeat LFTs & *AFP labs	Date:_____		
2. Further education on liver health/lifestyle/weight	Date:_____		
3. Repeat CAGE Alcohol Abuse Screening	Date:_____		
4. Repeat PHQ-9 Depression Screening	Date:_____		
5. Second dose Hepatitis A Vaccination	Date:_____		
6. Third dose Hepatitis B Vaccination	Date:_____		
6. Request to scheduler to make f/u in 6 mos	Date:_____		
YEARLY FOLLOW UP APPOINTMENTS:			
1. Repeat LFTs & *AFP labs	Year 1 Date:_____ Year 2 Date:_____ Year 3 Date:_____		
2. History & Physical: Assess for liver disease progression	Year 1 Date:_____ Year 2 Date:_____ Year 3 Date:_____		
2. Further education on liver health/lifestyle/weight	Year 1 Date:_____ Year 2 Date:_____ Year 3 Date:_____		

*If AFP elevated, see AFP/Ultrasound guidelines

Appendix D

Alpha-fetoprotein (AFP) and Liver Ultrasound Guidelines

AFP: All persons with HCV infection should be considered for AFP testing every 6 months to screen for the development of hepatocellular carcinoma (HCC).

If AFP:

1) **Is elevated ≥ 10**, do a liver ultrasound then repeat AFP and ultrasound every 3 months as long as the AFP continues to rise. Consider triphasic CT scan if ultrasound is negative and AFP is rising.

2) **Remains ≥ 10** but stable (no longer rising) with normal ultrasound, continue AFP with ultrasound every 6 months.

3) **Was elevated** (with normal ultrasound) but then drops to < 10, return to 6 month monitoring of AFP.

4) **Is elevated and person is pregnant**, high levels may be due to the pregnancy but AFP still needs repeating at the 6 week post partum check-up (AFP should fall to normal by 6 weeks after birth).

A hepatologist consult is recommended with any AFP elevation ≥ 10, especially if a new finding. Even when the ultrasound is normal, the patient is at high risk for HCC or may have cirrhosis and may need further studies.

If patient has cirrhosis or if advanced fibrosis exists on biopsy, a liver ultrasound is recommended every 6 months along with AFP as the risk of HCC is high in these patients.

Source:

Alaska Native Tribal Health Cosortium (ANTHC). (2013). Recommendations **for the diagnosis and treatment of patients with hepatitis C virus (HCV) infection. Retrieved from** http://www.anthc.org/chs/crs/hep/rec_hep_c.cfm.

Appendix E

Hepatitis C Monitoring

CAGE Screening

1. Have you ever felt you ought to cut down on your drinking?

   Yes No

2. Have people annoyed you by criticizing your drinking?

   Yes No

3. Have you ever felt bad or guilty about your drinking?

   Yes No

4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)?

   Yes No

Total Score:_____

Source:

Ewing, J.A. (1984). Detecting alcoholism: The CAGE questionnaire. *JAMA, 252*(14), 1905-1907.

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use ✓ to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING ___0___ + _____ + _____ + _____

=Total Score: _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, display or distribute.

Appendix G

Hepatitis C Program Policy

1. **PURPOSE**
   - **a.** Determine the prevalence of hepatitis C virus (HCV) through screening parameters and implement a monitoring program.
   - **b.** Provide education to HCV infected individuals regarding the hepatitis C virus, transmission and lifestyle modification aimed at improving health outcomes.
   - **c.** Ensure necessary clinical follow up and documentation of patient condition for early detection of worsening liver disease and/or hepatocellular carcinoma.

2. **POLICY**
   - **a.** All patients will receive HCV education prior to testing, at the time of testing and during all follow up visits.
   - **b.** All staff will follow the Carl T. Curtis Hepatitis C Framework algorithm.
   - **c.** The Centers for Disease Control and Prevention (CDC) educational materials will be utilized for educational handouts during all phases of the HCV process.
   - **d.** The Carl T. Curtis HCV initial and follow up checklists will be implemented for every HCV positive patient.
   - **e.** According to checklist criteria, the following will be completed based on the individual patient circumstance: lab testing, mental health referral, substance abuse treatment referral, Hepatitis A&B vaccination status, physical exam and education.

3. **PROCEDURE**
   - **a. Screening**
     - **i.** With their permission, all patients born during 1945-1965 will complete a one time HCV antibody testing during their routine appointments. HCV antibody testing will not be completed during same day/walk-in visits unless deemed medically necessary by the medical provider.
     - **ii.** Prenatal HCV antibody screening will remain unchanged.
     - **iii.** At the discretion of the medical provider, HCV antibody screening testing should be ordered for any of the following risk factors: Past or present intravenous drug injection, received clotting factor concentrates produced before 1987, on long-term hemodialysis, intranasal cocaine use, unprofessional tattooing and body piercing, persistently abnormal alanine aminotransferase levels (ALT), recipients of transfusions or organ transplants who were notified that they received blood from a donor who later tested positive for HCV infection and those who received a transfusion of blood, blood components or an organ transplant before July 1992.
     - **iv.** Any patient that requests screening should receive HCV antibody testing.

b. **Diagnosis**
   i. Negative HCV antibody result: provide education on risk factors and healthy lifestyle
   ii. Positive HCV antibody result: Follow HCV Framework algorithm. Contact patient to schedule an appointment to notify of diagnosis, provide education and initiate the HCV monitoring checklists.

c. **Monitoring**
   i. Checklists will be initiated at the time of diagnosis and completed along with routine EHR documentation of clinical visits.
   ii. Hepatocellular carcinoma screening through Carl T. Curtis AFP and Liver ultrasound guidelines will be followed.
   iii. If a patient is non-compliant with HCV monitoring, document the non-compliance in the "comments" section of the checklist and in EHR.
   iv. Ensure referrals have been answered.
   v. Education will be completed during all follow up visits and when requested by the patient.

4. **RESPONSIBILITIES**

a. **Clinician:**
   i. Provide HCV infection, medication and lifestyle education.
   ii. Provide follow up care, document on checklists and in EHR.
   iii. Monitor liver function, disease progression and hepatocellular carcinoma risk.
   iv. Order referrals as necessary.
   v. Consult specialist with concerns and recommendations as needed.

b. **Clinic Nurse**:
   i. Provide HCV infection and lifestyle education through CDC educational materials.
   ii. Document where appropriate on checklist: Provide CAGE and PHQ-9 screening tools and document score on "comments" section of checklist, document vaccination status.
   iii. Assist in following up on answered referrals.
   iv. Assist in calling patients regarding appointments and follow up testing results.

c. **Mental Health Department**
   i. Answer clinician referrals and schedule appointments as requested.
   ii. Address mental health illness, symptoms and concerns.

d. **Alcohol Treatment Program**
   i. Answer clinician referrals and schedule appointments as requested.
   ii. Assist patient with alcohol/drug treatment.

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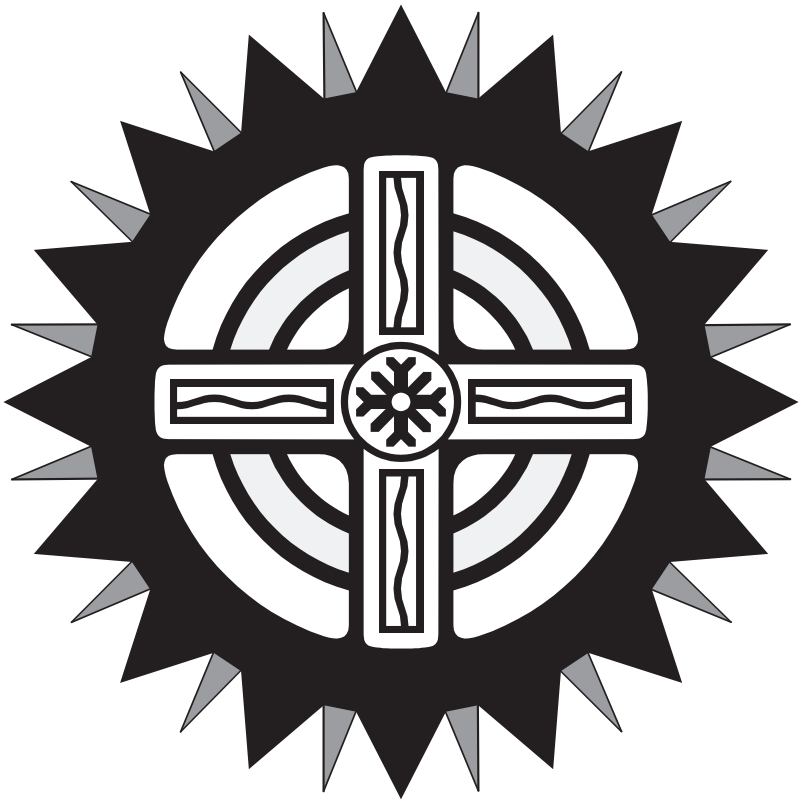

Implementation and Evaluation of Thirty Days Supply Dispensing in a Rural Pharmacy

Rebecca Wong, PharmD Resident; Joy Lee, PharmD, BCPS; and Christine Castillo, PharmD, all from the Crownpoint Comprehensive Healthcare Facility, Crownpoint, New Mexico

Background

The Indian Health Service (IHS) is committed to providing health care for underserved American Indians and Alaska Natives. Crownpoint Service Unit (CPSU) is an IHS facility that is located in the rural community of Crownpoint, New Mexico, population 3,000. There are limited resources in the community: one grocery store and two gas stations. The nearest Walmart is about one hour away.

Similarly, there is limited access to health care. Transportation and low incomes are both common barriers in the rural setting. Many patients live off paved roads, many miles away from the main facility, Crownpoint Healthcare Facility. Patients without transportation may even hitchhike to their doctor's appointment and anticoagulation clinic visits. Some who have cars will frequently not be able to afford the gas needed to travel to and from the hospital. Although health care access and health care resources are limited, the people are peaceful, humble, and resourceful.

Practitioners must be innovative to overcome challenges of financial stress and staffing shortages in a rural setting. CPSU oversees two satellite clinics, Thoreau Health Clinic (THC) and Pueblo Pintado Clinic, as well as the main facility itself, which handles the largest volume. THC serves approximately 3,600 patients annually, and is located 25 miles south of the main facility. Common disease states seen include type 2 diabetes mellitus, dyslipidemia, hypertension, chronic pain, asthma, and arthritis.

In October 2010, the main facility implemented a 30 days supply limitation on prescription refills, and patients with certain insurance plans that cover 30 days supply of medications were selected. As a result, average monthly prescription reimbursement revenue increased by approximately $30,000. This project evaluates the impact on medication adherence and revenue through an implementation of 30 days supply implementation at THC. The words of former United States Surgeon General C. Everett Koop, MD, "Drugs don't work in patients who don't take them," emphasizes the importance of considering medication adherence.[1] According to the literature, patients are generally categorized as adherent based on pharmacy refill data with at least an 80 percent medication adherence rate.[1] Numerous studies have shown that patients with chronic conditions adhere to 50 to 60 percent of medications as prescribed, despite evidence that medication therapy improves life expectancy and quality of life.[2]

Methods

Patients who are limited to 30 day supply on prescriptions include those with a post office box in Thoreau, New Mexico or Prewitt, New Mexico, and who are enrolled in one of the following health insurance plans: Amerigroup of New Mexico, Caremark, Catalyst Rx, Express Scripts, Medco Paid Prescription, Medco Health Solutions, Merck Medco, United Drug, Walgreens Health Initiatives, Wellpoint-D, Rx America, or Evercare Medicaid. A pharmacist screens patient charts and determines which patients meet the above criteria. Prescriptions are then truncated to a 30 day supply, and refills are adjusted accordingly.

Refill data were collected prospectively for six months, from September 11, 2012 to March 10, 2013, and for eleven months retrospectively, from October 11, 2011 to September 10, 2012. Prescription reimbursement data were collected for six months prospectively and six months retrospectively. Additionally, drug revenue reports were generated each month and evaluated for impact. The Electronic Health Record (EHR) was used to assess medication adherence through refill history dates of chronic medications before and after implementation. Patients were categorized as adherent if they had medications in their possession 80% of the time or greater. Patients were included in the medication adherence evaluation if they had filled a chronic medication between October 10, 2011 and September 10, 2012.

Results

Based on prescription reimbursement data collected six months prior to implementation and six months after implementation, there was an overall increase of 32% prescription reimbursement revenue based on all THC patients. Thirteen patients were evaluated for adherence before implementation. Eight patients were adherent (62%) and five patients were non-adherent (38%). One patient's adherence was not evaluated because he or she did not receive any chronic medications during the retrospective time period. Fourteen patients were evaluated for adherence after implementation. Eight patients were adherent (57%) and six patients were non-adherent (43). Out of the 14 total patients

included, five patients revealed no change in adherence (36%). Five patients were adherent before implementation and then non-adherent after implementation (36%). Four patients were non-adherent before implementation and then adherent after implementation (29%).

Discussion

Several limitations were encountered during this study. To begin with, there is no industry standard to evaluate patient medication adherence. Different authors and studies have varying definitions of adherence. Patient insurance plans were also another barrier. The number of patients who were reported as having one of the specified insurance plans that only paid for 30 days medication supply was not entirely accurate. Also, the insurance information displayed on a patient's EHR profile was frequently outdated. Patients may have lost their insurance or changed insurance plans without reporting this to the facility.

Moreover, one pharmacist was responsible for limiting patients to a 30 day supply. When selecting a patient's chronic medication for the adherence analysis, there was no specific randomization process. Finally, there was no one report in the Resource and Patient Management System (RPMS) computer system that provides revenue collection for individual patients. Collections were reported by date, and not by individual patient.

Conclusion

Based on the six months of data collected, there is a positive impact on total drug revenue. After implementation of 30 day prescriptions, there was approximately a 33% increase in total THC revenue generation. As a result of the study, CPSU has expanded 30 days supply to the entire service unit, including the main facility and the other satellite clinic. With this expansion, the address restriction was removed.

Unfortunately, due to small sample size, we were not able to determine whether implementation of 30 days supply limitation affects medication adherence. Although there were only 14 patients included in the study, this can be explained due to THC's patient population. Over 75% of patients do not have insurance. Most have some form of Medicaid/Medicare. Few patients are enrolled in private insurance plans. Follow up studies should consider adding additional private insurance plans and other Medicaid/Medicare insurance plans that pay for 30 days supply to the inclusion criteria. The effect of travel distance to and from clinic on medication adherence could also be evaluated.

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Our Apologies

We apologize for the delay in the production of this issue. Constraints on funding at the end of the fiscal year made it impossible to complete the preparation of the issue until now. We will catch up with our usual monthly publishing schedule as soon as possible. We are currently accepting submissions for the May issue.

Book Review of "Yellow Dirt: An American Story of a Poisoned Land and a People Betrayed"

Elizabeth Dickson, MSN, RN, 5052 Sanbusco Ct. NE, Rio Rancho, NM, 87144, edickson@salud.unm.edu

"Yellow Dirt: An American Story of a Poisoned Land and a People Betrayed," the 2010 book by Judy Pasternak, describes the true, shocking journey of the Navajo Nation through the three decades and the subsequent fifty years of aftermath of uranium mining by corporations on their tribal land during the race for the atomic bomb. Pasternak details the accrual of financial and legal exploitation of the Navajo people by uranium mining corporations, neglect by government agencies, and the imposed silence that wrought devastating morbidity and mortality to the community. The decision to mine uranium on the reservation left land stripped of its beauty and protection, with limited financial gain for Navajo communities. Pasternak portrays the details of what the Navajo were ultimately left to manage: the unaccountable damage to generations of families, communities, public health, and the sacred land itself. Given that recent uranium mining issues are being raised again near the Navajo Nation, this book is even more relevant.

Pasternak's provides a well-researched account of the egregious tribal sovereignty violations and weaves powerful, personal stories of Navajo miners' families through her carefully documented history: from 1943 when Vanadium Corporation of America (VCA) makes the first contract to mine uranium while promising to care for the property and health and safety of Navajo miners and "return the property in as good condition as received",[1] all the way to 2009 when Navajo advocates finally secure federal resources for Superfund clean-up. The collective "decision" to allow uranium mining on Navajo land is presented in the historical context of the fraught historical relationship between the Navajo tribe and the U.S. government, including the forced evacuation of the many tribal members in 1864, the treaty between governments signed in 1868, the Livestock Reduction Act in the 1930s, and removal of Navajo children to boarding schools during the policy period of assimilation.

The Navajo Nation is 25,000 square miles and its desert landscape crosses into Utah, Arizona, and New Mexico.[2] Once the vast stores of enriched uranium that lay under the Navajo land were discovered to build the most deadly weapon on earth, that land became the target of mining corporations from across the country. In Navajo tradition, the land is sacred: a reciprocal relationship of giving and receiving. The uranium mining that continued through the late 1960s left the land stripped and exposed, the air and homes unprotected from dangerous tailings of mining waste, contaminated aquifers, and many polluted water sources, including open pit mines left to fill with contaminated water.

As the author notes that while the scarring effects on the land were immediately obvious, the effects on human health emerged only years later, as former miners, their families, and individuals residing near abandoned mines began to be diagnosed with severe health problems. In the early 1940s, approximately ten years after the uranium mining began, the Navajo began to experience the emergence of never-before seen birth disorders, soon labeled "Navajo neuropathy."[3] Medical researchers attributed these changes to unsubstantiated, assumed prevalence of Navajo intermarriage, rather than acknowledging the potential role prolonged contact to environmental radiation could have in causing genetic mutations. The rationalization of genetic birth defects made it easy to believe the initial reports that concluded there was a lack of evidence to associate a health impact with uranium exposure.

Prior to uranium exposure, Navajos had been reputed to be unaffected by cancer, even considered having an immunity to the disease. However, cancer cases began to appear in the 1970s and rates soared between the 1970s and 1990s with shocking levels of disparity: lung cancer (56 times higher than the general population), stomach cancer (82 times higher), pancreatic cancer (78 times higher), bladder cancer (68 times), liver cancer (263 times higher), and prostate cancer (45 times higher). Pasternak notes, "there was no more talk of cancer immunity among the Navajos."[4]

For those suffering the effects of uranium mining, it was often not culturally appropriate to discuss their troubling health problems.[5] Subsequently, individuals often did not complain, did not speak of death, and did not immediately seek out Western medical interventions for even the most alarming physical symptoms. Geography, rural living, and poverty also made sharing of information between communities and families difficult. Subsequently, the combination of cultural respect and government silence delayed unifying a Navajo perspective regarding the effects of uranium mining until the 1980s.

As Pasternak notes, Navajo women, the foundation of a matriarchal society, managed and cared for families, livestock, and property while Navajo men were mining. They bore and cared for the children born with disabilities, cared for the miners who became ill, and found themselves together at the

hospital as their husbands were dying. It is not surprising that it was the Navajo women who pieced together the public health emergency and became the voices of truth about the effects of uranium mining. They participated in the legal depositions for state and federal court cases that tried to hold the private and public groups responsible for the clean-up of the uranium mines and for compensation for community members' loss and suffering. Pasternak credits Navajo women for teaching students the history of uranium mining, producing an award winning documentary, "Hear Our Voices." Women advocates insured that the "uranium homes," their foundations built with tailings and hot with radiation, were eventually destroyed. Navajo women elders traveled to Washington, D.C. to testify on behalf of their communities, lobbying for uranium–related health studies and clean-up funds. Navajo women, while losing loved ones and suffering their own health problems related to uranium exposure, brought a once-classified military and corporate operation to public scrutiny, demanding a public response.

Pasternak suggests multiple participants can claim some accountability for the emerging environmental disaster. She describes how mining corporations eluded responsibility for the chaos from which they profited, and various government agencies partnered with corporate operations or looked the other way, while purchasing the product of the mining. The U.S. Public Health Service (USPHS) studied the miners and their developing health problems without informing them of (or treating them for) the cancers and other fatal conditions they were developing. Their research yielded data to establish a safe standard for radon exposure but failed to act to protect human subjects. Readers cannot help but feel inspired by the Navajo and non-indigenous individuals who advocated for repairing the injustices committed against the Navajo people.

In the aftermath of the uranium boom, corrective legal action has been complex, involving not only the federal government and agencies, but three different states' governments, agencies, and laws, and a tribal government that continues to develop its own sovereign infrastructure, economic base, and policies. The community members who Pasternak interviewed for this book detailed numerous types of policies that affected the course of events surrounding uranium mining, including government treaty policy (agreements between the U.S. government and the Navajo people, a trail of underfunded programs and agencies created to support tribal communities and government), environmental policy (land management and how energy resources and their extraction and processing and transport are regulated or not), and funding for uranium-related health studies (providing resources to help researchers document and educate the public about the effects of prolonged exposure externally and internally to the uranium mines and waste left in their communities). Given the controversies surrounding the current increase in international demand for uranium, it would be prudent to consider the complex policy and legal recourse that is still being woven, prior to opening the gates to more uranium mining in the near future.

A Navajo community leader explained at a U.S. Congressional hearing in 2007 that the Navajo people "are undergoing a never-ending federal experiment to see how much devastation can be endured by a people and a society from exposure to radiation in the air, in the water, in mines and on the surface of the land."[6] The ongoing Navajo Birth Cohort Study in New Mexico (*http://hsc.unm.edu/pharmacy/healthyvoices/NBCS/Navajo_Birth_Cohort_Study_Page1.html*) focuses on the continued effects of uranium by documenting the disproportionate burden of illness, disability, and death disparities impacting generations born to the families of uranium miners. In this context, advocacy for fully appropriated funding of the Indian Health Service could significantly impact the health disparities in the Navajo communities.

. . . the Navajo people "are undergoing a never-ending federal experiment to see how much devastation can be endured by a people and a society from exposure to radiation in the air, in the water, in mines and on the surface of the land."

"Yellow Dirt" highlights the crucial roles of the various public health representatives, but the missing voice is the role of public health nurses and community health representatives (CHR) from the community. Public health nurses and CHRs can influence uranium-related health disparities as their work in the communities affected by uranium mining can include obtaining and coordinating services for chronic diseases, managing maternity patients and high-risk children at home, and providing an epidemiological perspective that connects effects of environmental exposure to the health of communities. Their perspective is unique and can contribute to the improvement of health outcomes in the wake of uranium exposure, advocating for health policy that protects communities from experiencing this type of tragedy again.

While Pasternak describes the importance in traditional culture to avoid talk of death or other negative thoughts, she conveys a strong, shared belief that anyone affected by the devastating effects of uranium mining can hope for and work towards a better future. Supporting a nation working to develop economically, without putting the health of the people or their land at risk, is instrumental in making sure future economic prosperity does not come at such a tremendous price. Working to hold tribal and federal organizations responsible for the clean-up still needed and documenting the continued

effects of uranium exposure are crucial to make sure history is not repeated. Finally, acknowledging the mistakes of the past and their effect on the physical, mental and spiritual health of Navajo individuals, families and communities today can help with collective healing.

Any health professional working with Navajo communities and tribal members would greatly benefit from reading this book. The collective knowledge of the history, health, and social impacts of uranium mining is important to maintain and apply to our work as health care providers. "Yellow Dirt" can serve as an in-depth guide for IHS professionals aiming to fulfill the goal to "raise the physical, mental, social and spiritual health of American Indians and Alaska Natives to the highest level".[7]

Acknowledgements

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The 19th Annual Elders Issue

The May 2014 issue of The IHS Provider, to be published on the occasion of National Older Americans Month, will be the nineteenth annual issue dedicated to our elders. Indian Health Service, tribal, and Urban Program professionals are encouraged to submit articles for this issue on elders and their health and health care. We are also interested in articles written by Indian elders themselves giving their perspective on health and health care issues. Inquiries or submissions can be addressed to the attention of the editor at the address on the back page of this issue.

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* the.provider@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.*

Psychiatrist
Zuni Comprehensive Community Health Center;
Zuni, New Mexico

The Zuni Comprehensive Community Health Center (Indian Health Service) has an opening for a full-time psychiatrist to see adults and children. We do psychotherapy, crisis work, trauma work, as well as work with families, couples, and groups. You will have the opportunity to impact and design mental health for the community as a whole. We are shielded from managed care. You have an opportunity to provide psychotherapy to your patients and families without worrying about insurance approvals. You are not merely hired as a prescriber, but as a biopsychosocial psychiatrist. In this job, you have a chance to feel good about the care you are providing, in a setting that is personally and professionally stimulating, and in a place where your skills are needed and valued. Additional advantages include market pay, no call, and excellent federal benefits.

We are located on the Zuni reservation. The Zuni Pueblo is one of the oldest continuously inhabited Native American villages in the US, estimated to be at least 800-900 years old. The Zuni are located on their ancestral lands and have one of the most intact Native American cultures in the country. Zuni tradition and the Zuni language are a living and vibrant part of daily life in the community. Zuni is nestled amongst beautiful redrock mesas and canyons. It is considered high desert at 6000 - 7000 feet and is located in the northwestern region of New Mexico, along the Arizona border.

For more information or to apply, contact Michelle Sanchez, Zuni Service Unit Behavioral Health; telephone (505) 782-7312; e-mail *michelle.sanchez2@ihs.gov*. (3/14)

Staff Clinician
Department of Health and Human Services,
National Institutes of Health, National Institute
of Diabetes and Digestive and Kidney Diseases,
Division of Intramural Research
Phoenix, Arizona

The Diabetes Epidemiology and Clinical Research Section (DECRS), Phoenix Epidemiology and Clinical Research Branch (PECRB), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts research in the epidemiology and prevention of type 2 diabetes, its complications, and related conditions, primarily among American Indians in the southwestern United States. The section is recruiting a staff clinician to take part in clinical research activities. The position is located in Phoenix, Arizona on the campus of the Phoenix Indian Medical Center.

The staff clinician will work in an interdisciplinary, collaborative environment and have the following responsibilities: a) medical director of the DECRS research clinics, supervising nurse practitioners and medical assistants, and overseeing clinic schedules and operations; b) principal or associate investigator of randomized clinical trials in prevention of diabetes or its complications; c) principal or associate investigator of epidemiologic investigations of type 2 diabetes and related conditions; and d) associate investigator in a randomized clinical trial of optimizing weight gain in pregnancy and effects on the mother and child. There are outstanding opportunities to collaborate with experts in epidemiology, clinical research, physiology, genetics, and biostatistics. Ample clinical, laboratory, and computing resources are available.

The position requires licensure to practice medicine in one of the United States or D.C. and board eligibility or certification, preferably in internal medicine, pediatrics, family practice, or preventive medicine. Clinical or epidemiological research training and experience are desirable. Salary and benefits will be commensurate with experience and qualifications. Outside candidates and current federal employees (civilian or commissioned corps) are encouraged to apply.

Interested candidates may contact William C. Knowler, MD, DrPH, Chief, DECRS, c/o Ms. Charlene Gishie. To apply, please send a cover letter; CV with publications list; and names and contacts of three references to Ms. Charlene Gishie, National Institutes of Health, 1550 E. Indian School Rd, Phoenix, AZ 85014; e-mail *charlene.gishie@nih.gov*. The deadline to submit an application is March 7, 2014.

NIDDK is a component of the National Institutes of Health (NIH) and the Department of Health and Human Services (DHHS). All positions are subject to a background investigation. DHHS and NIH are Equal Opportunity Employers. (1/14)

Family Practice Physicians (2)
Cass Lake IHS Hospital;
Cass Lake, Minnesota

Leech Lake Reservation is an open reservation located in Minnesota's Northwoods region. Towering pines fringe many of the lakes found within its boundaries. Wild rice beds, deep forests, and shimmering lakes, two of which are among the largest in the state, abound. There are approximately 1,050 square miles within the reservation, nearly all of which is within the boundaries of the Chippewa National Forest.

When you locate here, you are looking for a quality of life for both your workers and your family. That is why it will be worth your while to find out how much Leech Lake can offer with its natural beauty, friendly communities, good schools, and various civic, cultural, and historical organizations. The area also provides many quality outdoor recreational activities, from fishing and boating in the summer to nordic and alpine skiing in the winter. Though Leech Lake's natural beauty, civic attractions, and recreational activities are things to behold, they pale in comparison to the friendliness of the people of the Leech Lake area.

The population within the reservation boundaries is estimated at 91,800. Nearly fifty-eight percent are between the ages of 16 and 65. The resident American Indian population on the reservation has been estimated at 7,763 by the census. Most of the population is concentrated in eight communities dispersed across the reservation. Adjacent to the reservation, there are three major area economic centers: Bemidji, which is 13 miles to the west of Cass Lake; Grand Rapids, which lays 54 miles to the east of Cass Lake; and Walker, roughly 23 miles to the south of Cass Lake.

The Cass Lake Indian Hospital is owned and operated by the Federal Government as a Public Health Service, Indian Health Service Facility. We have a staff of 120 employees, six of whom are physicians and five nurse practitioners; there is a contracted emergency department service. Additional services include ambulatory clinic, dental, optometry, audiology, laboratory, radiology, physical therapy, and diabetes clinic. Our Facility has 13 beds; we had 223 discharges and 1,398 patient days in FY '05. According to the most recent data, we have 99,503 outpatient visits annually, 5,612 Dental visits, and 2,763 Optometry visits; there are 20,512 registered patients. The Leech Lake Tribe operates mental health, substance abuse, podiatry, and diabetes clinics, as well as seven other clinics staffed by various professionals.

For additional information, contact Antonio Gruimaraes, MD, Clinical Director (family medicine at telephone (218) 335-3200; e-mail *antonio.guimaraes@ihs.gov*, or Tony Buckanaga, Physician Recruiter, at telephone (218) 444-0486; e-mail *tony.buckanaga@ihs.gov*. (1/14)

Family Practice Physician
Pharmacist
Laboratory Supervisor
EMT Basic/Intermediate
First Responder
Environment Health Assistant
Master Social Worker
Alamo Navajo School Board, Inc.;
Alamo, New Mexico

Alamo Navajo School Board, Inc., Health Division is seeking health care practitioners to come work with their dedicated staff on the Alamo Navajo Reservation. Our clinic is located 140 miles southwest of Albuquerque and sixty miles west of Socorro. We have a multiservice community health center that include medical, dental, onsite pharmacy and lab, optometry, mental health, emergency medical, aftercare, and community health education services. One focus is on diabetes awareness and prevention of the disease, which affects one in every five people in Alamo. In support of the effort, the Health Division in collaboration with the Board and Administration constructed a community wellness center. The facility has a full-size gymnasium, aerobic and weight room, classrooms, kitchen, game room, day care, and an outdoor fitness path.

Alamo Navajo School Board, Inc., provides a highly negotiable and competitive salary; signing bonus; student loan assistance; housing; and an excellent benefits package that consist of a group health insurance/life insurance at no cost for employees and shared cost for dependents; 403(b) Retirement Plan and 457(b) Deferred Contribution Plan; Relocation reimbursement; 13 major holidays off; personal leave; and community wellness center access. Hiring preference will be given to Navajo and Indian Preference. For more information, please contact Hotona Secatero, Director of Personnel, at (575) 854-2543 extension 1309; or e-mail hsecatero@ansbi.org. (12/13)

Clinical Director
Family Medicine Physician
Kodiak Area Native Association;
Kodiak, Alaska

The Kodiak Area Native Association (KANA) is searching for an adventurous, highly motivated physician to lead our team that is committed to patient centered care, customer service, quality improvement, and stewardship. KANA is celebrating its 48th year of providing patient and family focused health care and social services to Alaska Natives and other beneficiaries of KANA throughout Kodiak Island. KANA's award winning medical staff is comprised of four physicians who work in conjunction with two midlevel providers, dedicated nurse case managers, and ancillary staff to

deliver the highest quality, team-based health care to an active user population of 2,800 patients. Integrated behavioral health and pharmacy services within the primary care setting also facilitate an advanced support system to ensure our patients' needs are met.

The spectacular scenic beauty of Kodiak Island offers a backdrop for an abundance of outdoor and family activities, including world-class fishing, hunting, wildlife viewing, kayaking, and hiking just minutes from your door. Its sometimes harsh climate is balanced by mild temperatures and unparalleled wilderness splendor that provide Kodiak's residents with a unique lifestyle in a relaxed island paradise.

KANA offers competitive compensation and an excellent employee benefits package, including medical, dental, vision, flexible spending accounts, short term disability insurance, life insurance, accidental death and dismemberment insurance, 401k with employer contribution, fitness membership, and paid time off.

If you're interested in hearing more about how you can start your journey to an adventure of a lifetime, please visit our website at *www.kanaweb.org*, give Lindsey Howell, Human Resources Manager, a call at (907) 486-9880, or contact our HR Department at *hr@kanaweb.org*. Alaska's Emerald Isle awaits you! (12/13)

Clinical Director
Family Practice Physician (2)
Physician Assistant
Family Nurse Practitioner
Clinical Nurse
Tohatchi Health Center;
Tohatchi, New Mexico

Tohatchi Health Center is the quality innovation and learning network (QILN) site for Gallup Service Unit. We are located approximately 30 miles north of Gallup, New Mexico, nestled against the Chuska Mountains. Ambulatory services include family medicine, internal medicine, obstetrics and gynecology, optometry, dental, pharmacy (including anticoagulation clinic), podiatry, physical therapy, social services, public health nursing, laboratory, limited radiology, and support services. Our facility provides health care Monday through Friday, 8:00 am to 4:30 pm. Our focus is building our medical home and supporting a patient centered health care system with the patients and communities we serve.

For more information, you can contact CDR Pamela Smiley, RN-SCN, Acting Health Systems Administrator at (505) 733-8100 or e-mail at *pamela.smiley@ihs.gov*. (12/13)

Primary Care Providers
Koosharem Community Health Center;
Richfield, Utah
Kanosh Community Health Center;
Kanosh, Utah

The Paiute Indian Tribe of Utah (PITU) has job openings for full-time mid-level practitioners at each location. The tribe operates health clinics in four communities, two of which are newly funded Community Health Centers in Richfield and Kanosh, Utah. Our outreach area encompasses 15 cities in Millard and Sevier Counties with an approximate service population of 25,311. Our goal is to provide excellent health care and services to those with economic, geographic, cultural, and language barriers. Clinical services include family medicine, prenatal and women's health care, dental, optometry, nutrition and dietetics education, and social service programs.

Richfield is located in west central Utah and lies in a valley surrounded by beautiful red rock mountains. Richfield is part of Panoramaland, and is a popular thoroughfare to several nearby national parks and forests. Kanosh is a small farming town located in Millard County; it was named in honor of the Paiute Indian Chief Kanosh. These areas have long been known for their outdoor recreational opportunities, such as hiking, fishing and hunting, mountain biking, and all-terrain vehicle events.

We offer an excellent benefits package that consists of a competitive annual salary, no cost health/dental/life insurance for the entire family, a 401(k) retirement plan with tribal match, 14½ paid holidays, annual (vacation) and sick leave accruals that roll over year to year, ability to earn compensatory time for time over 40 hours weekly, plus eligibility for NHSC or IHS loan repayment.

Interested candidates should submit a PITU application; CV/resume; and copies of medical license, driver's license, highest level of education achieved, and CIB (if applicable) to Paiute Indian Tribe of Utah, Attention: Kim Kelsey, 440 N. Paiute Dr., Cedar City, UT 84721. Job posting closes January 17, 2014, although the position will be remain open until filled. Visit *www.utahpaiutes.org* to download application; call (435) 586-1112, ext. 110; or e-mail *kim.kelsey@ihs.gov* with questions or for more information. (11/13)

Primary Care (Internal Medicine or
Family Practice) Physicians
Phoenix Indian Medical Center;
Phoenix, Arizona

The Departments of Family and Internal Medicine at the Phoenix Indian Medical Center have openings for board certified/eligible outpatient family and internal medicine physicians. Our adult primary care services are provided by eleven family physicians, six internists, and two midlevel providers. Our physicians work in multidisciplinary health care teams with the active participation of nurse care coordinators, nutritionists, pharmacists, nurses, clerks, and other staff, all of whom work together to provide a medical home for patients with chronic illnesses. We have an advanced access appointment system and have been using the Electronic Health Record for over six years. Full time 8 and 10 hour per day schedule options are available. Competitive federal salaries and benefits are available, and Commissioned

Officer applicants are also welcome. Job applications should be made online at USAJOBS.gov. For more information, please contact Dr. Eric Ossowski, Family Medicine, or Dr. Dorothy Sanderson, Internal Medicine at *dorothy.sanderson@ihs.gov*; telephone (602) 263-1537. (10/13)

Hospitalist (Family Practice or Internal Medicine) Physicians
Phoenix Indian Medical Center;
Phoenix, Arizona

The Phoenix Indian Medical Center (PIMC) is actively seeking board certified/eligible family medicine or internal medicine physicians to staff its inpatient unit. PIMC is an inpatient and outpatient facility located in downtown Phoenix that provides medical care to patients from over 40 tribes. Hospitalists typically round/admit/consult on 8 to 12 patients per shift. Typical admitting diagnoses include diabetic ketoacidosis, hepatic encephalopathy, pneumonia, asthma, pyelonephritis, and cellulitis. Specialty services available to provide consultation on the inpatient service include surgery/wound care, ENT, obstetrics and gynecology, rheumatology, infectious diseases, nephrology, orthopaedics, podiatry, and dermatology. Competitive federal salary and benefits are available, and Commissioned Officers are also welcome to apply. Interested physicians should contact Dr. Dorothy Sanderson at *dorothy.sanderson@ihs.gov*, or telephone (602) 263-1537, ext. 1155. (10/13)

Family Physician with Obstetrical Skills
Ethel Lund Medical Center;
Juneau, Alaska

The SEARHC Ethel Lund Medical Center, Juneau, Alaska is searching for a full-time family physician with OB to join a great medical staff of 14 providers at a unique clinic and hospital setting. Have the best of both worlds by joining our practice where we share hospitalist duties and spend our remaining time in an outpatient clinic with great staff and excellent quality of life. We have the opportunity to practice full spectrum family medicine with easy access to consultants when we need them. Maintain all your skills learned in residency and expand them further with support from our tertiary care center, Alaska Native Medical Center.

Clinic is focused on Patient Centered Medical Homes, quality improvement with staff development from IHI, and using the Indian Health Service HER. Frequent CME and opportunities for growth: teaching students & residents and faculty status at University of Washington available to qualified staff. Loan repayment site for Indian Health Service and National Health Service Corps and State of Alaska SHARP program.

Work in Southeast Alaska with access to amazing winter and summer recreational activities. Live in the state capital with access to theater, concerts, annual musical festivals and quick travel to other communities by ferry or plane. Consider joining a well rounded medical staff of 14 providers at a beautiful clinic with excellent benefits. For more information contact, Dr. Cate Buley, Assistant Medical Director, Ethel Lund Medical Center, Juneau, Alaska 1-907-364-4485; email *cbuley@searhc.org*. Position open March 2014. Look us up online at *www.searhc.org* job vacancies. (8/13)

Family Medicine Physician
Internal Medicine Physician
Emergency Medicine Physician
Sells Service Unit;
Sells, Arizona

The Sells Service Unit (SSU) in southern Arizona is recruiting for board certified/board eligible emergency room physician, family/internal medicine physician, and physician assistants to join our experienced medical staff. The Sells Service Unit is the primary source of health care for approximately 24,000 people of the Tohono O'odham Nation. The service unit consists of a Joint Commission accredited 34-bed hospital in Sells, Arizona and three health centers: San Xavier Health Center, located in Tucson, Arizona, the Santa Rosa Health Center, located in Santa Rosa, Arizona, and the San Simon Health Center located in San Simon, Arizona with a combined caseload of approximately 100,000 outpatient visits annually. Clinical services include family medicine, pediatrics, internal medicine, prenatal and women's health care, dental, optometry, ophthalmology, podiatry, physical therapy, nutrition and dietetics, social work services, and diabetes self-management education.

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

We offer competitive salary, relocation/recruitment/retention allowance, federal employment benefits package, CME leave and allowance, and loan repayment. For more information, please contact Peter Ziegler, MD, SSU Clinical Director at (520) 295-2481 or by e-mail at *peter.ziegler@ihs.gov*. (8/13)

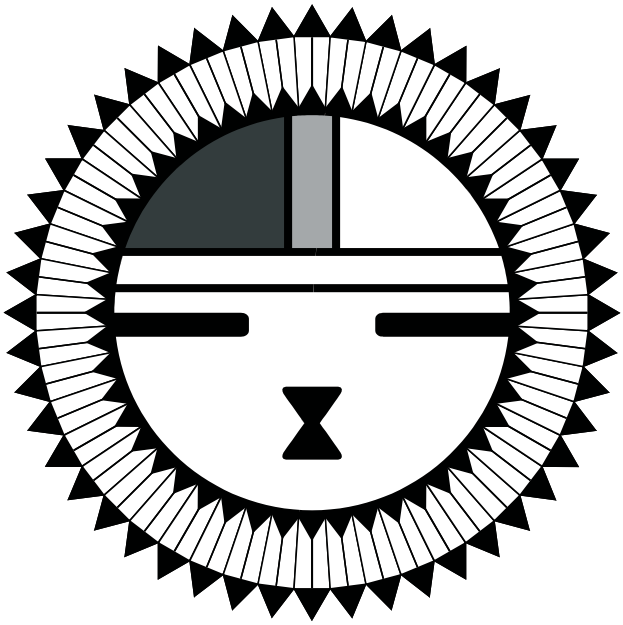
Mid-Level Practitioner
Health Director
Quileute Tribe;
La Push, Washington

The Quileute Tribe has a job opening for a full-time mid-level practitioner. Must be a certified physician assistant, licensed in the state of Washington, and must have a valid

Washington driver's license. Submit your application, professional license, cover letter, resume and three references by August 16, 2013, although the position will be open until filled.

We are also looking for a health director, who will provide administrative direction, negotiate and administer IHS contracts, develop and administer budgets, write reports, insure HIPPA compliance, comply with ACA, manage EHR, evaluate staff, and insure third party reimbursements are done. Must have a bachelor's degree related to health administration, and two years of management experience. This position is open until filled.

Telephone (360) 374-4366 or visit our website at *www.quileutenation.org* for a job application and job description. Alternatively, you may contact Roseann Fonzi, Personnel Director, PO Box 279, 71 Main Street, La Push, Washington 98350; telephone (360) 374-4367; fax (360) 374-4368; or e-mail *roseann.fonzi@quileutenation.org*. (8/13)



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