



Indian Health Service
 Division of Epidemiology & Disease Prevention
 5300 Homestead Road NE
 Albuquerque, NM 87110
<http://www.ihs.gov/epi/>

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ZEBRA OF THE MONTH: Q FEVER

The medical term “zebra” is derived from a dictum taught in medical school: “When you hear hoof beats, think of horses, not zebras.” This saying means that for any given group of symptoms with which a patient presents, the most likely cause is a common disease; so that’s what the doctor should think of first. However, unlikely diagnoses do happen, and one of our jobs in the Division of Epidemiology and Disease Prevention is to track down these “zebras.” In this newsletter, we discuss the history of Q fever, a well-known “zebra” that is of importance to IHS, especially in the Southwest, because it is present in the reproductive tissues of cattle, sheep, and goats.

Q fever is a febrile illness caused by *Coxiella burnetii*, a species of bacteria that is a gram-negative coccobacillus. It was discovered after an outbreak of nine cases of febrile illness occurred among slaughterhouse workers in 1934 in Brisbane, Queensland, Australia. Dr. Edward Derrick, who called the illness Query or “Q” fever because the cause was unknown, described the outbreak. He was able to show that injecting the urine of affected patients into guinea pigs could cause them to suffer a similar illness, and he sent the spleen of an affected guinea pig to Dr. MacFarlane Burnet of the Hall Institute in Melbourne in 1936. Burnet and others isolated a previously unknown bacterium from the sample. At the same time, in Hamilton, Montana, Dr. Harold Cox and colleagues from NIH were investigating transmission by ticks of the causative agent of Rocky Mountain Spotted Fever (RMSF). They thought that they had discovered the previously unknown agent from ticks from Nine Mile Creek, Montana, which they called Nine Mile agent. The director of NIH, Dr. Rolla E. Dyer, visited Montana to confirm their findings. On the train ride back to Bethesda, he fell ill – and a sample of his blood caused fever in guinea pigs, from which the Nine Mile agent was isolated. In 1938 Dr. Dyer showed that the Q fever

agent from Australia and the Nine Mile agent from Montana (which he had kindly brought to NIH incubating in his own bloodstream) were identical. The Q fever agent was ultimately named *Coxiella burnetii* in honor of Drs. Cox and Burnet.

Dr. Dyer survived his occupational bout with Q fever, remained the head of NIH, and went on to have a major impact on the history of epidemiology. The Malaria Control in War Areas (MCWA) program had been started by the US Public Health Service shortly after the attack on Pearl Harbor. Its first headquarters was in Atlanta, GA, and its mission was to control malaria in 15 southeastern states, the Virgin Islands, and Puerto Rico. Dr. Joseph W. Mountin, who was director of PHS’ Division of State Services (in which MCWA was located), realized that the wartime mission of the MCWA needed to expand to peacetime communicable disease control in civilian populations. He envisioned a multi-centered institution with facilities in Atlanta to study the control of infectious diseases; in Cincinnati, to study air and water pollution; and in Alaska, to study Arctic health.

He presented his vision at a high-stakes meeting with Dr. Dyer, who (much to Dr. Mountin’s surprise) said that NIH, which was focused on basic research, had no objections to the foundation of the Communicable Diseases Center (CDC), which was to concern itself with the practical application of field epidemiology and disease control.

On July 1, 1946, CDC was founded. It is intriguing to imagine how our professional lives might have been different were it not for an Australian abattoir, guinea pig spleens, ticks from Montana, and a medical mystery worked out in Australia, Montana, and Maryland.

THE CHRONIC CARE INITIATIVE: EVALUATING THE INNOVATIONS IN PLANNED CARE COLLABORATIVE

The Chronic Care Initiative (CCI), one of three IHS health initiatives, is using modern improvement methodologies to fundamentally transform our system of care for clinical prevention and for the management of chronic conditions¹. Currently, 38 IHS, Tribal, and Urban clinics participate in the CCI Innovations in Planned Care (IPC) Collaborative. These sites have been building improvement capacity into their systems of care and using measurement to guide improvement efforts.

In a process known as the Breakthrough Collaborative², the IPC learning community engages every other week in 1 hour web-based seminars (action period calls), with more intensive 2-day meetings (learning sessions) at 8-12 week intervals (some held in-person and others web-based). During these sessions, IPC teams share data and collaborate with each other through the reporting of common measures and changes, as well as exchanging ideas and questions on a website and list serve. Measurements are used to guide improvement, not to judge performance.

The CCI Evaluation Workgroup has been tasked with evaluating the process and outcomes of the collaborative. The purpose of the evaluation is to assess whether the IPC Collaborative participation achieves measurable improvements in healthcare quality at sites. Both processes and outcomes will be evaluated in order that changes to the effort may be driven by the data the teams are already collecting, as well as Resource and Patient Management System (RPMS) data.

The evaluation plan addresses three specific aims:

Aim A: Determine to what extent IPC was associated with an improvement in quality and efficiency of care.

Aim B: Identify the characteristics of context and implementation that are associated with the most successful sites.

Aim C: Collect stakeholders' perceptions of facilitators and barriers to IPC implementation, and to assess the effect of IPC on staff satisfaction and retention.

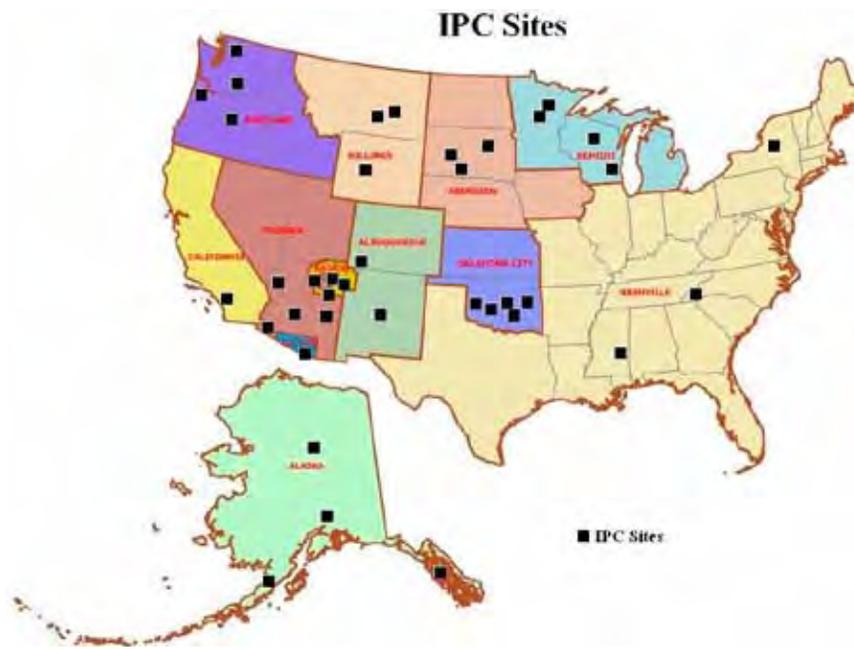
The categories of variables include processes, intermediate outcomes, preventable hospitalizations, and context and implementation indicators. Performance on these indicators up to four years following the beginning of the program will be compared with past performance and the performance of comparison sites. This plan constitutes the first phase of evaluation and development of the plan with ongoing stakeholder input will lead to additional phases. The evaluation of such an ambitious healthcare improvement collaborative has far-reaching implications in improving healthcare quality throughout Indian country.

For more information please contact Nancy Kuchar at nancy.kuchar@ihs.gov.

¹Kuchar NL, Finke B, Cobb N, Jones CM, Reidhead CT, Nyquist C. The Indian Health Service Chronic Care Initiative: Innovations in planned care for the Indian Health System. The IHS Primary Care Provider. 2009 Apr:112-114.

²The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement. IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2003. (Available on www.IHI.org)

- Albuquerque Service Unit
- Cherokee Indian Hospital (Eastern)
- Cherokee Nation, Oklahoma
- Chickasaw National Health System
- Chief Andrew Isaac Health Center
- Chinle Service Unit
- Choctaw Health Center
- Chugachmiut Health Care Division
- Clinton Indian Health Center
- Colville Indian Health Center
- Eastern Aleutian Tribe
- Fort Defiance Indian Hospital
- Fort Mojave Indian Health Center
- Fort Peck Service Unit
- Fort Yuma Health Center
- Gallup Medical Indian Center
- Gerald L. Ignace IHC
- Indian Health Council
- Kayenta Health Center
- Northern Cheyenne Service Unit
- Oklahoma City Indian Clinic
- Oneida Indian Health Service
- Phoenix Indian Medical Center
- Potawatomi Health Center
- Rapid City Indian Health Service
- Red Lake Hospital
- Sells Indian Health Service
- South Dakota Urban Indian Health
- Swinomish Health Clinic
- Ute Mountain Health Center
- Wagner IHS Healthcare Facility
- Warm Spring Health and Wellness
- Wewoka Service Unit
- White Earth Health Center
- Whiteriver Service Unit
- Wind River Service Unit
- Yakama Indian Health Service



HIV ROUTINE SCREENING

In September 2006 CDC recommended routine screening of 13-64 year olds for HIV. The rationale for screening is the same for any health condition: the test is reliable, noninvasive and cost-effective (even at low prevalence rates), and early detection of the disease can greatly improve treatment options and outcomes. You can find the original link here:

http://www.cdc.gov/hiv/topics/testing/resources/qa/qa_professional.htm

However, recommendations can be challenging to make a reality. Health care providers have noted difficulties in routine screening for HIV. Cost, time added to an already rushed consultation, patient acceptance, and state regulations just to name a few.

A recent survey of IHS clinicians found that most doctors and nurses support the new guidelines (69%), but many feel that special qualifications are needed for counseling, and that written consent is still needed for HIV testing.

Fortunately, both these assumptions are inaccurate—CDC has noted that streamlined consent and counseling procedures are needed for wider HIV screening. There are no counseling certifications required, and verbal consent is adequate in almost all states.

Tucson Area began wider HIV screening in 2007. Of interest they found 1) offering testing to everyone reduced the stigma of testing, and patient acceptance was excellent, and 2) bundling HIV tests with STDs helped integrate HIV as a normal screening procedure. Tucson Area also recommended that there be a clear follow up protocol for notifying patients with positive results, as well as linkages to care so that providers “know what to do with” a reactive HIV test result. They also offered many other important tips on HIV Screening.

In the end, Tucson providers stated patient acceptance was excellent and they will continue to routinely screen for HIV. Read about their experience at:

<http://www.ihs.gov/Publicinfo/Publications/HealthProvider/issues/PROV0209.pdf>

Together with the National AIDS Program, the Division of Epidemiology and Disease Prevention will be providing technical and monetary support to Service Units that want to make the change to HIV screening rather than risk-based testing. Approximately five SUs are already doing so, and many more are following. Contact us if your SU is interested. We can provide linkages to trainings on counseling, clinical trainings, and other support.

Brigg Reilley, HIV Surveillance Coordinator
Brigg.Reilley@ihs.gov

NEED TOBACCO INFORMATION FOR YOUR COMMUNITY?

The American Indian Adult Tobacco Survey (AI ATS) is a tool for American Indian tribes, tribal organizations, and other organizations to assess the knowledge, beliefs and attitudes of tribal members regarding commercial tobacco use. It is designed specifically to collect tribe-specific and community-specific data on tobacco use for American Indian adults and as such may not be culturally relevant, appropriate, or applicable to other demographics, including Alaska Natives.

The AI ATS was adapted from state-based Adult Tobacco Survey (June 2003). The modified tool utilizes standard core questions and allows tribes to add their own questions. These available supplementary questions focus on the specific needs of a particular organization include sacred/ceremonial tobacco use, purchase patterns, tobacco-related asthma, diabetes, and cardiovascular disease; tobacco brand preference, and other tribe-specific tobacco issues. Tribal Support Centers for Tobacco Control Programs and the CDC offered extensive input and testing to ensure the survey would accurately reflect the health needs of American Indian communities.

The AI ATS was developed for use in face-to-face survey gathering research, and has not been tested as a telephone survey tool. Data from the survey can be used to help evaluate programs and develop policy, direct program planning that is culturally appropriate, allocate funds and resources, and monitor tobacco marketing tactics for specific tribes.



Technical assistance is available through the National Native Commercial Tobacco Abuse Prevention Network: www.keepitsacred.org. Contacts for more information include Lisa D. Kerfoot, National Native Commercial Tobacco Abuse Prevention Network Program Manager, at 906.632.6896 or lkerfoot@itcmi.org and Megan Woehr, Tobacco Control Specialist, at (602) 400-0850 or megan.woehr@ihs.gov.

Surveys, survey overview, and implementation manual can be found at: http://www.cdc.gov/tobacco/data_statistics/surveys/american_indian/

INDIAN HEALTH SERVICE FUNDED SOUTHWEST TRIBAL BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS) PROJECT

October 2007 to Present

In an effort to understand the type of health risk behaviors present among tribal people, AASTEC, with funding from the Indian Health Service, is conducting a survey among adults using the Southwest Tribal Behavioral Risk Factor Surveillance System (BRFSS) Project. The project provides support to the health promotion and disease prevention activities presently underway in area tribal communities. The ultimate goals are to improve the quality of life and to improve the health status of Southwest Tribal members. Participation by tribal communities in this project allows them to identify areas that require more attention and resources. Perhaps even more importantly, the results of this project will allow us to identify areas in which the community is doing well. Items on the survey include risk behaviors and preventative factors associated with the leading causes of death among American Indians and Alaskan Natives such as heart disease, cancer, diabetes, and unintentional injuries. Understanding health-related behaviors is important for planning, implementing, and evaluating programs and services aimed to prevent the leading causes of death among tribal members.

The project is underway in six tribal communities from the Albuquerque Area (Colorado, New Mexico and Texas) and expected to begin in several communities in Fall 2009. Approximately 100 to 400 American Indian adults 18 years of age and older are recruited to complete the survey depending on population size of the tribal community and sampling criteria determined by the tribe. Participation in the survey is voluntary and information from participants is collected face-to-face by trained interviewers and remains confidential. In addition to completing the survey, one-third of participants are recruited for the medical chart validation component of the project. Participants are asked permission to access their medical charts for the purpose of measuring the accuracy of the information collected from the survey. Information collected from the medical charts includes disease diagnoses, screening

completions, immunizations, and anthropometric measures.

To date completed survey questionnaires total about 1,100, from the six participating communities, with sustained activity at two of the remaining sites. Once data collection is completed, AASTEC will prepare Tribe-specific reports summarizing the conduct of these surveys and the results of these analyses that will be disseminated only to that particular tribe. The tribe will be given all copies of the report for dissemination at their discretion. Community members will be made aware of project findings through data presentations. A final presentation will be made to each Tribal Council, Tribal Health Board, and as determined by Tribal and health leadership, with other programs. In addition, AASTEC will prepare an aggregate report summarizing the Southwest Tribal BRFSS Project. This report will be disseminated throughout Albuquerque Area and the results shared with the Albuquerque Area Indian Health Board of Directors and the AASTEC Executive Council for use in stimulating discussion among health care providers and tribal communities and for guiding the development, targeting, and implementation of prevention programs. In addition, if results from these analyses add new and important information to the general knowledge about health risks and behaviors, or in regards to validation methodology, AASTEC will seek, with the participation and approval of all the participating tribes and the IRB, to publish these results in a reputable, national medical or public health journal to aid other tribal efforts throughout the United States.



For more information contact:
 Matt Falb, MHS
 Staff Epidemiologist
 Albuquerque Area Southwest Tribal Epidemiology Center
 Tel: 505-962-2604
 Email: mfalb@aastec.org

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 Newsletter Workgroup

Elverna Bennett, *Program Specialist*
 Don Haverkamp, *Epidemiologist (CDC)*
 Selina Keryte, *TEC Project Officer*
 Nancy Kuchar, *Public Health Prevention Specialist (CDC)*
 Brigg Reilly, *HIV Surveillance Coordinator*
 James Cheek, *DEDP Director*

