

1995

Reauthorization of the Indian Health Care Improvement Act

Indian Health Service, Rockville, MD.

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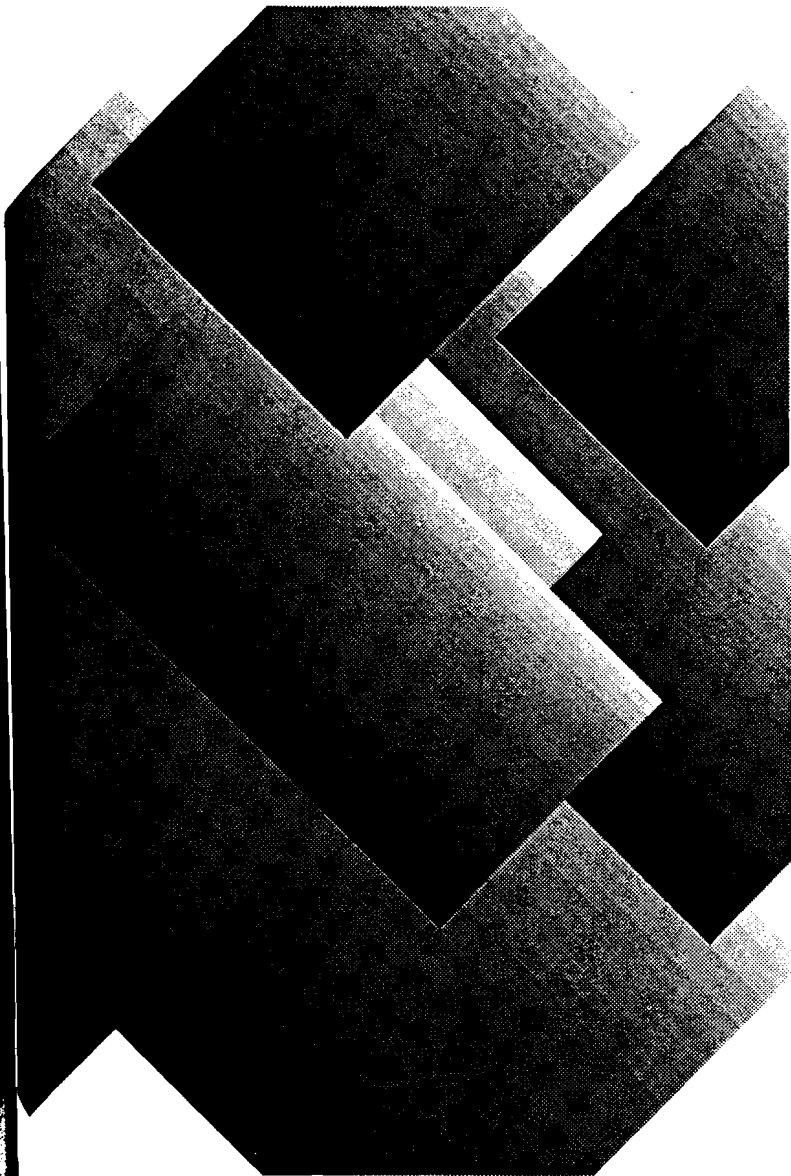
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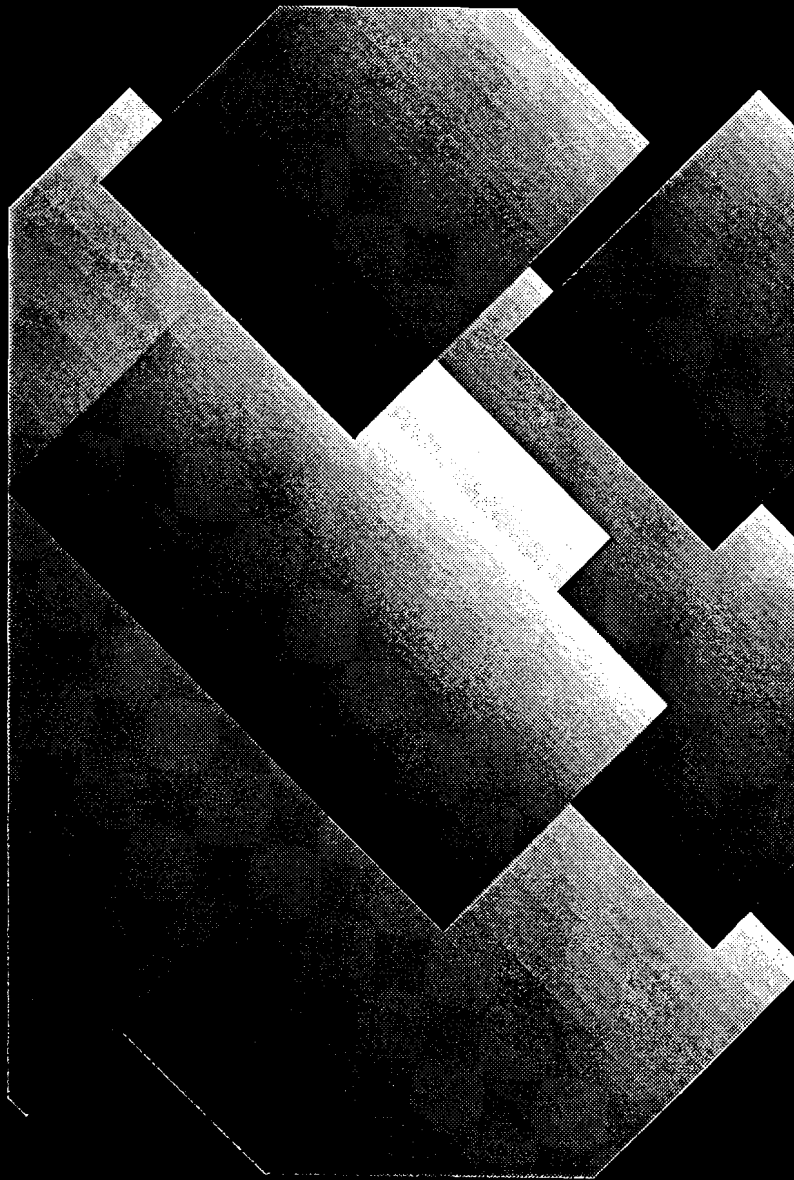
**Successful
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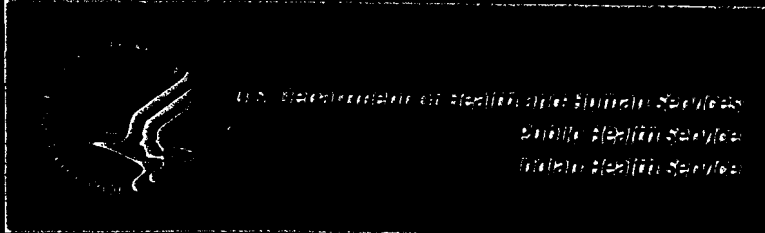
*U.S. Department of Health and Human Services
Public Health Service
Indian Health Service*



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Indian Health Service**



**Successful
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IHS Publication No. 95-85016

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Introduction

The Indian Health Service, an agency of the United States Public Health Service, is responsible for providing health care services to American Indians and Alaska Natives. These services are rendered either through IHS- or tribally-operated hospitals and clinics or through urban Indian projects, collectively referred to as Indian health programs. These various programs serve approximately 1.4 million American Indians and Alaska Natives residing mostly in remote, isolated areas in 34 states. The Indian Health Service (IHS), like other public and private health care providers, is facing ever-increasing costs in the delivery of health care, compounded by the lack of a health care infrastructure in the remote locations where many of these services are rendered.

Indian health programs face another challenge that cannot be ignored. Overall, the health status of American Indians and Alaska Natives lags well behind that enjoyed by Americans as a whole. Special tactics have been required to address this unfortunate fact, beyond the usual acute and chronic care available from clinics and hospitals. This has resulted in the utilization of Community Health Representatives, sanitation engineers, environmental health specialists, injury prevention specialists, public health nurses, health educators, and, in Alaska, Community Health Aides. Thus there is a long history in Indian health care of applying special strategies in striving for the overall goal of elevating the health status of American Indians and Alaska Natives.

The service population of the Indian health programs is unique. Tribal culture, family structure, traditions, religion, and values that are passed from generation to generation dictate the need for unique methods of delivering appropriate health care in a variety of settings. Essential to the successful delivery of health care to American Indians and Alaska Natives is a partnership among tribal governments, Indian organizations, and the IHS. Such cooperation has resulted in significant improvements in the health status of American Indians and Alaska Natives. For example, since 1973, with the implementation of the IHS sanitation facilities construction program, the age-adjusted death rate among American Indians and Alaska Natives from gastrointestinal diseases has declined by 81%; extensive IHS, tribal, public health, and community outreach programs have helped to lower the age-adjusted death rate from tuberculosis by 74%; IHS maternal and child health programs have contributed to a 65% decline in the maternal death rate; and innovative tribal and IHS injury prevention programs have led to a 54% decline in the age-adjusted death rate from accidents. As another example, Indian health programs have achieved immunization rates of almost 90% for 2-year-old American Indian and Alaska Native children, exceeding the 67% all races average in the U.S.

These accomplishments, and others, demonstrate that working in partnership with local American Indian and Alaska Native communities works. They also confirm that providing the full continuum of care, including preventive, curative, rehabilitative, and environmental services, pays dividends in improved health status, and that community outreach programs designed to encourage individuals to become active participants in health promotion and disease prevention activities can be successful.

Similar to other health care systems, Indian health programs must endure in an environment of increasing health care costs, a growing service population, and decreasing resources. The survival of a viable health care system will depend on a commitment to the concept of managed care. *The Managed Care Resource** gives the following definition of this concept:

Managed care brings the disciplines of analysis, efficiency, and accountability to bear on health care systems and delivery. While the first generation of managed care concentrated primarily on containing hospital costs, today's new generation of managed care also:

- analyzes the process and results of medical treatment.
- develops and communicates practice guidelines for effective and cost-efficient care.
- builds networks of providers to improve the cost-effectiveness of health care delivery.
- seeks continuous quality improvement.
- facilitates access to preventive services and early treatment.
- supports patients and their families in finding the most appropriate treatments available.
- plays a coordinating role among the complex network of payers, providers, and patients to enhance communication and continuity of care.

The tools of managed care include utilization review, case management, provider contracting, and information technology.

Experiences with managed care in Indian health programs are documented in this monograph. The purposes of this publication are to (1) recognize and publicize outstanding examples of the application of managed care principles to direct care

* *The Managed Care Resource: The Language of Managed Health Care.* Minnetonka, MN: United HealthCare Corporation; 1994:7.

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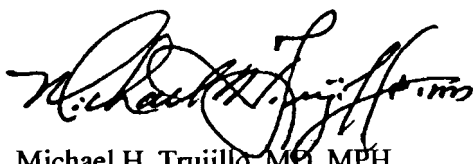
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services in Indian health programs, (2) stimulate other innovative Indian Health Service and tribal managed care efforts, and (3) demonstrate to others that IHS and tribal health programs have a commitment to managed care.

Managed care's flexibility provides a dynamic process for developing a cost-effective, high quality health care delivery system tailored to meet the very specific and unique needs of the American Indian and Alaska Native population. Applying managed care principles is an exercise in evolution, modification, and expansion. Trial and error, and testing and retesting are required. Innovation is key.

Health care costs are climbing out of control; the result is a drastic reduction in the buying power of the IHS/tribal health budget. The challenge to those involved in the delivery of health care to American Indians and Alaska Natives is to develop strategies to ensure the delivery of cost-effective, high quality health care.



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Analyzes the Process and Results of Medical Treatment

➤ **Develops and Communicates Practice Guidelines**

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Effective Tools For Pharmaceutical Cost Containment

During the early 1970s, the Indian Health Service Oklahoma City Area introduced the concept of an Area Pharmacy and Therapeutics Committee in an attempt to maximize appropriate drug therapy for patients and to increase the cost-effectiveness of pharmaceutical resources. The Oklahoma City Area covers the states of Oklahoma, Kansas, and Texas and comprises 7 hospitals and 29 ambulatory health care centers operated either by the Indian Health Service (IHS) or tribes within the Area. Figures for fiscal year (FY) 1993 show that Oklahoma City Area pharmacists filled over 1.5 million prescriptions, costing approximately \$12 million. With a budget this large, it is critical to find ways to control costs, while ensuring quality patient care.

Members of the Area Pharmacy and Therapeutics (P&T) Committee include the Area Chief Medical Officer (who chairs the committee and votes only to break ties), the Area Pharmacy Officer, and a physician representative from each IHS Oklahoma City Area and tribal facility P&T Committee. The Area P&T Committee determines what drugs will be included on the Area drug formulary, which is the inventory of drugs available for purchase by IHS/tribal facilities throughout the Area. Pharmaceuticals are added to or removed from the formulary based on a simple majority of votes cast by members in attendance. Any other or "non-formulary" drug purchases made by IHS Oklahoma City Area facilities must be approved in advance (except in emergencies) by the Area's Chief Medical Officer.

The Area P&T Committee meets at least annually to consider requests for additions and deletions to the Area drug formulary. New drug requests are submitted to the Area Committee by the local IHS and tribal facility P&T Committees throughout the Area. Prior to the annual Area P&T Committee meeting, a written drug evaluation for each requested new drug, including a thorough review of the current medical literature, is prepared by one of several Area pharmacists. These evaluations also include a recommendation for addition to the formulary or rejection

of the requested drug and, where appropriate, suggested drug use criteria. The written evaluations are distributed to the local P&T Committees at least 30 days prior to the annual meeting in order to allow time for these local committees to consider the drug requests and make a recommendation to their respective representatives on the Area P&T Committee.

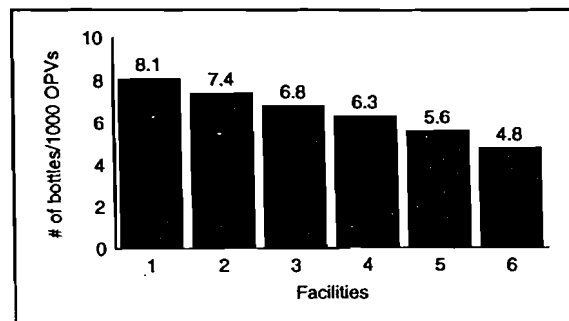
The regional IHS Service Supply Center supports the Area P&T Committee decisions by stocking only drugs that have been approved by the committee. In this manner, drug formulary policies and procedures are reinforced, because 98% of all drug items are purchased from the Supply Center.

Cost containment doesn't end with committee meetings and a published formulary. Other important aspects of the Oklahoma City Area pharmaceutical-related activities include drug utilization review and drug class review. Drugs are selected for *utilization review* based upon financial impact and potential for cost savings without compromising patient care. Using these criteria, selected high cost drugs are reviewed in detail during the annual Area P&T Committee meeting.

For example, during a recent committee meeting, the use of the drug cimetidine was examined. This medication represents a substantial expense for the Area (\$471,298 in fiscal year 1992), and is thought to be overprescribed in some circumstances, thereby presenting an opportunity for potential cost savings. Figure 1 depicts the facilities with the highest use of cimetidine 400 mg tablets. Reporting the data in "bottles per 1000 outpatient visits" (OPVs) makes the data more comparable by compensating for higher use in facilities/service units with higher patient volume. Comparing facility use of high cost drugs can uncover potential drug use problems at the facility level. For example, given relatively similar patient populations, why would one facility require eight bottles of cimetidine tablets/1000 OPVs while another facility requires only one bottle? Although the answer to this question is multifactorial, prescribing practices are probably a significant factor. Implementation of local controls and enforcement of drug use criteria at the facility level can result in significant cost savings.

High use by a facility does not, in itself, represent misuse or overprescribing of the drug. Drug usage data, however, can be an indicator that *drug use evaluation*

Figure 1. Number of bottles (500 tablets per bottle) of cimetidine (400 mg tablets) prescribed per 1000 outpatient visits; highest six user facilities, IHS Oklahoma City Area, fiscal year 1992.



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(DUE) should be performed at the facility level. With DUE, more specific, patient-level review is done to monitor compliance with approved drug use criteria. If problems are detected by the local DUE, they can be addressed by the local facility Clinical Director and P&T Committee.

On a periodic basis, the Area P&T Committee also performs *therapeutic drug class reviews*. This consists of a literature review and evaluation of all drugs available within a specified therapeutic drug class. Appropriate drugs from the class are then added to or removed from the formulary by committee vote. Drug class reviews have been done on cephalosporin antibiotics, calcium channel blockers, and angiotensin-converting enzyme (ACE) inhibitor drugs. (Calcium channel blockers and ACE inhibitors are used for high blood pressure and congestive heart failure.)

The drug class review of ACE inhibitor drugs was done at the annual meeting of the Area P&T Committee in 1993. These costly drugs consumed more than \$1 million of the Oklahoma City Area drug budget in 1992. Captopril and enalapril are two ACE inhibitor drugs which had been on the Area formulary for several years. Subsequently, several newer ACE inhibitor drugs had been introduced. An analysis of the available ACE inhibitor drugs by the Area P&T Committee showed that significant savings could be achieved by changing from enalapril to a newer drug, fosinopril. Importantly, medical literature review suggested that this change would not result in significant clinical differences in patient response or in the quality of patient care. The Committee approved the addition of fosinopril to the Oklahoma City Area drug formulary and deleted enalapril.

During the remainder of FY 1993, the transition to the new ACE inhibitor drug was accomplished throughout the Area. The cost for the drug enalapril for FY 1992 was \$1,051,173. After the transition year (FY 1993), the total cost for fosinopril for FY 1994 was \$615,066. This represents a savings of \$436,107. Without Area-wide standardization and surveillance by the Area P&T Committee, these savings would not have been realized. It is important to note that the use of the other formulary ACE inhibitor (captopril) remained relatively constant over this period of time, indicating that practitioners were not using more of the other approved ACE inhibitor instead of using the newer drug fosinopril.

The managed care strategies described here (evaluating all new drug requests, drug utilization reviews, drug class reviews, and purchase by the Supply Center of only drugs on the formulary) have yielded significant cost savings, while maintaining high quality patient care. A willingness to analyze what is happening and to explore alternative methods to provide the same quality services is a key component of managed care. Educated decisions that take cost into consideration while insisting on

no compromise in quality of care are essential in today's health care environment. Acceptance of a standardized formulary, limitation of choices for the greater good, cooperation, and communication were essential factors in the success of this pharmaceutical cost containment program.

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Coeur d'Alene Tribe Manages and Improves Access to Health Care

Until 1990, the 700 members of the Coeur d'Alene Tribe of Northern Idaho residing on reservation land would have to travel up to 45 miles for many medical services. The reservation is located near the Idaho/Washington border about 45 miles southeast of Spokane, Washington and 35 miles south of Coeur d'Alene, Idaho. This journey was often undertaken in bad weather over difficult roads. The travel was necessary because there were limited on-reservation medical services available. For example, specialty clinics were not held at the reservation health facility; the clinic also lacked full laboratory and radiology services, physical therapy, and comprehensive social services, to mention a few other shortcomings. Additionally, the members of the Coeur d'Alene Tribe had to deal with an Indian Health Service (IHS) contract health service office in Lapwai, Idaho, 110 miles away, for approval of needed off-reservation medical services. This resulted in long distance phone calls and significant delay in gaining approval for contract medical services. As well, reimbursement for these contract health services was often delayed, creating problems for tribal members, such as collection notices and harassment from credit agencies.

To address these issues, the tribe conceived a plan to build a comprehensive medical facility to be located on reservation land. Completed in June 1990, the Benewah Medical Center (BMC) serves the Coeur d'Alene Tribe's 1300 members (the 700 individuals residing on the reservation and another 600 living in nearby communities), as well as the general public on a fee-for-service basis. (Many non-Indians had the same problem with access to health care as tribal members.) While wholly owned by the Coeur d'Alene Tribe, BMC, from its inception, has been a collaborative project designed to serve both Indian and non-Indian residents of the community. Without the support of all community members, the building of the clinic may not have been possible.

The administration and staffing have been designed to ensure broad representation. For example, the Board of Directors includes both American Indian and non-Indian members. There is an independent management structure, unique for a tribal-owned enterprise, under which all personnel, finance, billing, and collection systems are conducted in-house, much like that of a self-contained business. The

medical center is fiscally independent and managed separately from other tribal revenue systems.

The cooperative spirit demonstrated in building the new facility is further illustrated by the fact that funding for the clinic's initial construction came from the Bureau of Indian Affairs (BIA), the Department of Housing and Urban Development (HUD), and a State of Idaho Community Development Block Grant in a joint venture with the City of Plummer, Idaho.

Currently, the largest portion of the clinic's operating budget (80%) is for services provided to American Indians, including direct ambulatory services, consultants visits, and hospital services through contract care. These expenses are funded under a PL 93-638, self-governance compacting agreement. Only ambulatory services are provided to non-Indians and are financed through a Section 330 Rural Health Initiative Grant from the federal Health Resources and Services Administration's Bureau of Primary Health Care (10% of total clinic budget)) and by program income from such sources as Medicaid, private insurance, and fee-for-service payments (10%; paid directly by patients or through third party payers).

Comprehensive health services available at the clinic include dental care, substance abuse treatment, mental health care, immunization services, and community health programs. The clinic not only provides curative health care services but also life-style and preventive services.

The tribe has taken over responsibility for managing reimbursement for contract health services obtained from specialists and private hospitals, previously handled by the IHS in Lapwai. This has ensured prompt provision of clinical services and, in turn, timely payment of bills. It has also relieved much of the scheduling and reimbursement burden that had been formerly shouldered by the patients themselves. As of May 1995, 2,642 American Indians and 3,117 non-Indians had registered as users of the clinic. Patient visits (all services) per month have averaged 1,600 during fiscal years 1993 and 1994.

In February 1994, a \$1.4 million expansion of the health and dental clinic was completed to better serve all patients. The medical center received Joint Commission on Accreditation of Health Care Organizations (JCAHO) accreditation in January 1995. Future plans include building a wellness center, to include physical therapy, aquatic rehabilitative exercise programs, and preventive medicine activities, in the immediate vicinity of the existing center.

"Looking ahead" has been a tradition of the Coeur d'Alene Tribe and its leaders. The clinic is just one piece of a larger vision for creating a community for educated younger members to inherit and build upon. By developing resources that can today provide good health among community members, the Coeur d'Alene Tribe

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is at the same time ensuring a bright and long-lasting legacy for its children. It is also important to note that this tribe has shared and continues to share this vision and future with its Indian and non-Indian neighbors. Rural communities have always had fewer health care resources than their urban counterparts. However, with collaborative effort, rural communities can narrow the gap in health services available to them. The Benewah Medical Center is a model for the strengthening of rural non-Indian community and tribal relations.

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A Cost-Effective Initiative to Improve Care for Indian Patients with Kidney Disease

The Indian Health Service is first and foremost a system devoted to primary care; most of its facilities and resources are organized to provide care according to family practice and community medicine models. There are relatively few subspecialty physicians working full time for the organization. This results in a limited capability to monitor and thus control highly technical care delivered by medical and surgical sub-specialists on behalf of the Agency.

American Indians and Alaska Natives are experiencing an epidemic of kidney disease, with rates of end stage renal disease (ESRD; that is, kidney failure requiring dialysis or transplantation for survival) higher than among any other racial or ethnic group in the U.S. Responding to this epidemic has been a great challenge for the Indian Health Service (IHS), particularly in times of limited personnel and financial resources.

The IHS Kidney Disease Program, now in its sixth year, is an innovative response to the increasing burden of kidney disease in the American Indian/Alaska Native population. The Program was established with the goal of developing a comprehensive and coordinated approach to kidney disease in the Indian population. By offering expertise and consultation to tribal and IHS managers and clinicians, the Program has attempted to improve the quality of and access to care for all American Indian/Alaska Native patients with ESRD.

One outcome of the effort has been to move the center of control of end stage renal disease care from outside subspecialists and contractors toward the primary care providers, health care managers, and patients, whether in IHS or tribal health care settings. ESRD care is expensive specialty care, which, for the most part, the IHS must purchase by contract. Granted, IHS pays only a small portion of the contract care cost, since most patients receiving such care are covered by Medicare and/or Medicaid. Nevertheless, the recent implementation of dialysis contracts places IHS and tribal service units in the position of deciding which of several competing contractors will have the privilege of providing services to our patients. This also gives them more control over the services provided.

With the inception of the Kidney Disease Program, it was envisioned that establishing "in-house" expertise and supporting the development of a model dialysis contract would strengthen the position of tribal and IHS contractors in their negotiations with dialysis providers. While dialysis services are highly regulated, there are a number of important issues that are not explicitly covered by any of the federal or state regulatory agencies, but which can and must be addressed in contracts. These include, among many other things, assurance of access to transplantation and home dialysis, availability of translators in the dialysis unit, and collaboration with IHS primary care physicians, who are often the only physicians immediately available to patients living on reservations. Contractors might also be required to provide a level of dialysis that would exceed that required by Medicare, and to assess patient satisfaction with the services provided.

The Kidney Program has contributed to the improvement of the quality of care received by American Indian/Alaska Native ESRD patients. For example, in the Albuquerque Area there has been a threefold increase in patients choosing home dialysis, and increased access to transplantation, two treatment modalities associated with a higher quality of life than that obtained with dialysis at a treatment center. There are now patients on chronic ambulatory peritoneal dialysis (CAPD) in several isolated communities, where there were none in the past; the number of patients on CAPD has increased tenfold at one site.

The IHS has developed a close relationship with ESRD Network #15, the non-profit, federally funded agency that collects data and provides quality assurance services for ESRD patients in a six-state region. This collaboration has improved data collection pertaining to American Indian/Alaska Native ESRD patients, and has focused attention on the problems of American Indians/Alaska Natives with ESRD. Similarly, cooperation with local transplantation centers has facilitated better and earlier (thus improving the likelihood of success) transplantation evaluations for American Indians/Alaska Natives living in isolated communities, and has led to the development of culturally sensitive educational materials on transplantation.

The Kidney Program's emphasis has been to provide clinicians and managers with the expertise necessary to cope with the complexities of dialysis and transplantation. The Program has cultivated working relationships with a number of outside agencies to achieve its mission, usually with funding provided by the outside agency. Support for research and program development has been obtained through agreements with the National Institutes of Health, the Centers for Disease Control and Prevention, ESRD Networks, and vendors.

During the past six years, significant progress has been made in several areas which will benefit American Indian/Alaska Native patients with kidney disease. Beyond that, this innovative approach is a model for the cost-effective use of scarce IHS resources in the 1990s and beyond.

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A Day Hospital for the Seriously Mentally Ill Improves Care

Day Hospitals are valuable in the treatment of individuals with serious mental illnesses (SMI), such as schizophrenia, bipolar disorder, and organic psychotic conditions. Schizophrenia, the most debilitating of these psychiatric disorders, accounts for approximately half of all psychiatric inpatient admissions, resulting in expenditures of \$20 to \$30 billion in the United States each year.

These illnesses are characterized by relapses, often due to noncompliance with prescribed medications; one reason for this is that the drugs used to treat these complicated disorders produce some of the most unpleasant side effects of any medications prescribed. The most effective strategy to prevent acute symptomatic relapse and subsequent hospitalization has been found to be a combination of medication and Day Hospital supervision (see Table 1).

The Day Hospital model is based on the philosophy that individuals with serious mental illnesses require a combination of careful assessment, medication, mental health education, social skills training, psychosocial therapies, and case management to maximize their ability to get along in their own community. A critical factor in improving functionality is to treat these individuals in their own community, thereby maintaining their social support network, a concept that is especially important in American Indian/Alaska Native communities.

The Kayenta Day Hospital opened its doors in December 1993. Funding was provided through the Indian Health Service with Deferred Services money. During FY 1994, there were 997 visits by SMI patients to the Day Hospital, with an average census ranging from 5 (during the first 6 months of operation) to 8 (at the close of the fiscal year).

Since major disruptions in clinical services made 1993 an unusually costly year for inpatient care of SMI patients, FY 1992 was chosen as a baseline year for comparison purposes. The Day Hospital program was considered a success as measured in a variety of ways. The number of hospital inpatient psychiatric days was reduced by 90%, with only one SMI patient admitted in the first year of operation of the day hospital. In addition, a number of SMI patients who also have unstable

Table 1. Risk of relapse in one year following initial stabilization, by treatment modality.

No treatment	85%
Placebo	80%
Day Hospital	70%
Medication alone	25%
Medication and Day Hospital	10%

medical disorders (such as seizures) have been able to avoid inpatient medical admissions. In fact, three such patients who have had multiple medical admissions in the past have not had a single medical admission during the first year of operation.

With the case management system in place, the staff of the Day Hospital, along with Indian Health Service (IHS) therapists, have managed to secure housing for three Day Hospital patients and are anticipating the placement of at least one more in the near future. This further contributes to patient stability.

Several family gatherings have been carried out, providing relatives with education regarding mental illness and an opportunity to discuss their frustration related to coping with a relative with SMI. This further enhances the image of the IHS and reduces the stigma associated with mental illness.

The program has provided a quality of mental health care not previously experienced on the Navajo Reservation. The staffs of the Counseling Services Department and the Day Hospital have provided to Navajo patients with serious (and costly) mental illnesses a culturally sensitive program. More importantly, it allows them to maximize their functioning as citizens in their communities.

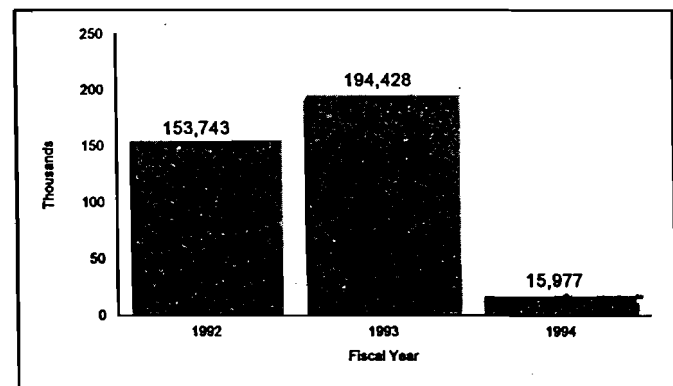
While expenses for inpatient care for SMI patients for FY 1994 fell by 90% compared to FY 1992 (Figure 1), determination of actual costs (and savings) during FY 1994 is confounded

by the fact that "out-of-pocket" expenses for the program were low for the following reasons: the Day Hospital was able to obtain a rent-free lease for the building from the Bureau of Indian Affairs (BIA), the BIA has not charged the Day Hospital for the cost of heating the building, and the cost of the IHS physician's

services was not included as an expense. In addition, operating expenses were affected by the fact that the program operates only four days per week (three days for patients and one day for staff program planning, charting, and building maintenance). Evaluation of whether or not there was an actual cost savings is currently underway.

The Day Hospital provides an opportunity to offer quality, state-of-the-art mental health services to Navajo people with serious mental illnesses at no additional direct expense to the Indian Health Service. An additional benefit is that the program enables these patients to remain in their community within their support network, receiving services that are culturally tailored to their individual needs.

Figure 1. Total costs for inpatient care for patients with severe mental illness, fiscal years 1992 through 1994.



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Telemedicine Successful on Rural Reservation

Many Indian health care facilities are located in rural settings far from large referral centers. The 45-bed Pine Ridge PHS Indian Hospital is located on the Oglala Sioux Indian Reservation in southwestern South Dakota, which has a land area of 2.8 million acres and a population of 20,000. The hospital is the hub of a comprehensive health care system that includes inpatient care, outpatient services, health education, environmental health services, and community health nursing. It is also a base for five freestanding ambulatory care clinics serving outlying communities. The service unit's total staff numbers 270 and its annual budget is approximately \$20 million.

Health care providers working at rural facilities often feel isolated from the support of specialist consultation, and from educational opportunities as well. The use of newer technologies can bridge this gap. The Pine Ridge/Mayo Clinic/National Aeronautic and Space Administration (NASA) Telemedicine Project was designed to explore whether telemedicine technology could support clinical education and patient care needs in a setting such as that at Pine Ridge. For three months in 1994, live, two-way videoconference transmission took place twelve hours a week between the Mayo Clinic in Rochester, Minnesota and the Pine Ridge Indian hospital. The purposes of the project were twofold: to offer educational opportunities for health care providers and to give patients access to specialty consultations.

Each week there were two scheduled continuing education conferences, one for physicians and one attended by a mixed audience of professionals, paraprofessionals, and community health representatives. Clinical consultations occurred in two formats, one involving a live patient interview and examination, and the other a review of a case without the patient being present. Although the presence of the patient was preferred by the consultant, often the patient wasn't available and a case review had to suffice. Clinical consultations were scheduled in 12 disciplines, with 55 patients seen and 43 additional cases presented for review. Thus, a total of 98 consultations were completed during the three-month demonstration period.

As one might expect, the technology had its good points and its bad. The quality of transmitted visual images and sound was acceptable for the routine delivery of educational and consultation services. The video link reinforced for the patients the fact that they had received the attention of a highly qualified subspecialist, and the physicians who obtained the service felt that the consultations contributed not only to the management of their patients but to their own sense of professional well-being.

As would be predicted when new technology is first introduced, many participants at both Pine Ridge and the Mayo Clinic required some time to "warm" to its use. However, once patients and health care professionals alike tried the system and saw how nonthreatening and useful it was, they were eager to participate and interact with the consultants. Occasionally, scheduling problems at either end or failure of the communications link led to cancellation of scheduled sessions.

Physicians at Pine Ridge experienced time conflicts: when in clinic, they were expected to see patients, not meet with other doctors in consultation. They found that routine clinical obligations made it difficult for them to participate even though they knew that the consultations, and the educational programs, would help their patients in the long run. A system of back-up coverage might have been one solution. At other Mayo outreach clinics, each site is coordinated by an experienced nurse clinician who assures that patient records, test reports, and X-rays are available. The consultant sees the patient without expecting the referring physician to be present and dictates a note to the referring physician that summarizes the case and makes recommendations. When this model was adopted at Pine Ridge, the efficiency of the consultation clinics improved, much to everyone's satisfaction.

The Mayo Clinic began the project with the assumption that patients who were scheduled for consultation slots could be expected to be present at that time. This assumption proved incorrect. Because of the great distances and the uncertainties of arranging travel, the residents of Pine Ridge have difficulty keeping appointments. Several suggestions arose to solve this problem, such as keeping "on demand" telemedicine appointments always available at Mayo, or having access to "next day" services.

Intellectual and geographic isolation lead to high turnover of health care professionals. A telecommunications network might improve physician retention by letting the physicians at Pine Ridge feel more secure, supported, and satisfied in their practice environment. Better physician retention, in turn, should lead to higher levels of patient compliance and better patient outcomes.

Although this demonstration project relied in part upon a satellite link, the telecommunications link of choice at this time is a "T1" telephone line; the current cost of such a leased line between Rochester, Minnesota and Pine Ridge, South Dakota would be between \$6,000 and \$7,000 per month. While this figure may seem

prohibitive, it is less than 0.5% of the total operations budget of the Pine Ridge Service Unit. If videoconference consultations could reduce the use of contract care by just 2%, it is projected that the line could pay for itself. Savings would potentially accrue from reduced air and surface transport charges, decreased utilization of off-site patient care sources, and earlier (and therefore presumably less costly) transfer of patients when indicated.

The goals of the Pine Ridge/Mayo Clinic/NASA Telemedicine Project were to learn whether this technology could support continuing education and medical care, and to learn how to use the technology to meet the needs of the health care professionals and patients at Pine Ridge. In this sense, the project was a success, and many ideas for improvements were derived from the experience.

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Promoting Service Excellence at the Phoenix Indian Medical Center

If, according to the adage, adversity should be regarded as a challenge, the Phoenix Indian Medical Center has a number of opportunities created by shrinking resources, expanding workloads, tests of staff morale, and changes in the federal health care delivery environment.

As budget appropriations have not kept up with the rapidly expanding service population, third party reimbursements have assumed a greater importance in the Indian Health Service. Maximizing collection of funds from third party resources may be the best way to maintain or expand services. Third party resources fall into three main categories: private insurance, Medicare, and Medicaid.

In Arizona, Medicaid funds are distributed through a program called the Arizona Health Care Cost Containment System (AHCCCS). Funds are allocated by AHCCCS to various health plans that compete for enrollees (eligible beneficiaries) by offering inducements like attractive benefits packages, convenient facilities, and stable primary care physician affiliations. People who apply for AHCCCS may choose the health plan they wish to join; those failing to make a selection are automatically assigned to a plan. The Indian Health Service (IHS) competes like all of the other plans in the state for AHCCCS-eligible American Indian enrollees.

To compete successfully to become the "provider of choice" for American Indian patients with private insurance or who are AHCCCS-eligible, the Phoenix Indian Medical Center (PIMC), like all IHS and tribal facilities, must offer services that are comparable to or better than those of the other health plans in the state. Anything less and these patients may choose to go to (and the resultant resources will be diverted to) other health plans, while those still receiving care at PIMC will have diminished resources available to serve them.

Staff morale problems at PIMC were examined in an employee survey conducted several years ago. Among the problems identified were a perceived deterioration of staff behavior toward patients and other staff, and a lack of attention to service by many of the staff. In addition, the Administration at PIMC became aware of an increasing number of reports regarding unfriendly and sometimes rude

staff, exceedingly long waits to be seen in the outpatient clinic (even with appointments), and clinics with a six- to ten-week waiting time before an appointment could be scheduled. None of these are attributes of a facility patients would choose; indeed, these are characteristics of a health care facility patients would be more likely to avoid if given a choice.

Resolving to address these challenges, the leadership of PIMC introduced a Service Excellence Initiative. At its core, the initiative is a commitment to change the existing organizational culture; the goal is to foster thinking throughout all levels of the organization supportive of and committed to customer and patient service. The anticipated result would be improvements in customer satisfaction and confidence, patient outcomes, financial status, morale, recruitment and retention, community reputation, and pride in a job well done.

The initiative follows many of the principles of Continuous Quality Improvement (CQI). Garnering staff involvement and developing a service mission were two of the initial steps; other identified principles* serving as the foundation for this initiative included:

- Management vision and commitment
- Accountability
- Measurement and feedback
- Problem solving and process improvement
- Communication
- Staff development and training
- Physician involvement
- Reward and recognition
- Employee involvement and empowerment
- Refreshers and reminders.

With these principles in mind, management set about to redirect the organizational culture at PIMC. A series of information gathering and planning meetings, involving representatives selected from front-line, supervisory, management, and administrative staff were held over a period of several months. From these meetings came several documents and plans. The most important of these were the PIMC Mission Statement, the PIMC House Rules (a set of very broad behavioral guidelines), plans for the introduction of the Service Excellence Initiative to all staff, and a broadly defined plan for the implementation of the initiative.

Early on, 43 orientation sessions about the Service Excellence program were presented. All staff at PIMC were required to attend one of these classes taught by volunteer hospital staff members who had participated in a one-day train-the-trainer class. Much information was presented during these introductory training classes,

* *What It Takes to Achieve Service Quality Improvement*. Philadelphia, PA: The Einstein Consulting Group;

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including PIMC's position as a competitor in the local health care market, the number of positions funded by third party collections, and why this was an initiative that needed to be undertaken at this time. Participants engaged in a number of exercises, for example, identifying their own experiences with good and bad service and the characteristics defining each, and comparing that to their perceptions of the service provided at PIMC. They compiled phrases that might be considered morale destroyers and those that might be morale builders.

The primary objective of these sessions was to raise awareness of the increasing ability of patients to choose providers of care *other than* PIMC, and how the collective behavior toward and service provided to patients influences their choices. The next step was to connect that information to the way positions are funded (approximately 25% of all positions at PIMC are dependent on the collection of third party reimbursements). Through the exercises, staff also learned some basic skills they might use when confronted with difficult or stressful situations.

A training session for all of the managerial staff (department chiefs, managers, supervisors, head nurses, and chiefs of services) at PIMC was then conducted. This training emphasized the critical importance of the management staff, particularly first-line supervisors. The principles of CQI mentioned earlier were discussed, and three of these were selected for emphasis during the first year of the program: accountability, measurement and feedback, and reward and recognition. Upon their return to the work setting, the supervisors were expected to develop Service Excellence Plans showing how each of the areas of emphasis would be addressed in their department.

Another meeting with the same management group was held three months later to discuss how Service Excellence was progressing in their respective units. At this time, hospital leaders agreed to develop and implement a Patient Survey Program, relieving supervisors in clinical areas of the burden of doing external customer surveys. Due to an unusually heavy workload (PIMC underwent JCAHO survey and was host for the annual U.S. Public Health Service Professional Association Annual Meeting at about this time), it was also agreed that Service Excellence departmental plans would not go into effect until six months later, giving supervisors ample time to develop their plans.

Departmental Service Excellence plans were implemented on schedule, and department heads were asked to report on their progress one year later. This report was evaluated against the departmental plan previously submitted, and feedback and guidance were then provided during the yearly supervisory performance reviews. During the coming year, the departmental plans will address improvement in identified areas of weakness, plans for the improvement of services to primary customer groups, more specific plans for achieving a sound recognition program, and identification of specific service behaviors expected by the department head.

Meanwhile, administrators developed a Patient Satisfaction Survey Program and, after some refinements, a one-year pilot study was begun. To assure a timely and

effective response to any problems identified in the Patient Satisfaction Survey, upper level managers asked the clinical chiefs to develop and submit plans for how they will respond to the findings.

As with any change, there has been some resistance, but the majority of staff have embraced the principles and made every effort to provide courteous and respectful service to their patients and customers. These efforts have not gone unnoticed by our patients; many positive comments have been received during the survey interviews (e.g., “. . . everyone was so attentive to me.” “The staff was cheerful and polite.”).

The long-term effects of the Service Excellence Initiative will not be known until a follow-up employee survey is conducted, trends in staff turnover rates are examined, and frequency of visits by patients who have alternate resources are closely studied. However, the limited data already obtained demonstrate enhanced staff morale and patient satisfaction.

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Wampanoag Tribal Health Service Initiates Clinical Prevention Program

The Wampanoag Tribe of Gay Head/Aquinnah is located on the Island of Martha's Vineyard, five miles off the coast of Cape Cod, Massachusetts. "Wampanoag" has been interpreted as meaning "people of the first light" since the sun, as it rises above the Atlantic Ocean, sheds its light first on the Islands of "Noepe" (Martha's Vineyard) and Nantucket.

Indian people have lived on Martha's Vineyard for over 2,000 years. In the early 1600s, there were an estimated 3,000 Wampanoags inhabiting the Island. By 1870, only 270 tribal members remained on the tribal roll, most living in the community of Gay Head, located 20 miles from the main seaport towns and centers of commerce. In 1870, the Gay Head community was incorporated as a state township and lost its status as a tribe.

In 1987, after years of perseverance, the tribe won federal recognition. The tribe presently totals 790 members, 289 of whom reside on Martha's Vineyard, which comprises the Indian Health Service (IHS) delivery area. The Wampanoag Health Service, essentially a contract health services-based program, was initiated in September 1988 with a staff of three people and an overall development strategy to apply a managed care approach to program development emphasizing quality and access to care, with a strong focus on delivering effective preventive health services.

The first task was to assess the level of need in the community in order to forecast, plan for, and meet these needs. With an IHS tribal management grant, the tribe contracted with a public health consulting firm to help design and analyze a community health needs assessment.

The health needs assessment enabled Wampanoag Health Service staff to identify all eligible tribal members, their health insurance benefits (if any), utilization patterns, chronic disease rates, self-reported experiences with selected preventive screening tests, and their satisfaction with prior and current health services. An immediate outcome of this assessment process was the identification of significant deficiencies in doctors' performance and tracking of preventive health screenings. These findings were corroborated by an IHS-sponsored quality assurance review of hospital and primary care office records.

The next task was to develop strategies and systems to deliver an effective program in a tribal health environment of limited and diminishing resources. Some of the critical challenges for the Wampanoag Health Service (WHS) were:

- How to enhance the quality of patient care.
- How to monitor and influence community provider practices in health promotion and disease prevention.
- How best to integrate and manage the care received by tribal members from at least 11 different primary care physicians out of 250 total health care providers (including those on the Cape and in the greater Boston area).

To improve the efficiency and accuracy of claims processing and the capability of forecasting future contract care needs, it was necessary to streamline and automate the existing manual CHS system. A database program that emulates the IHS UNIX/MUMPS program was modified and enhanced to meet the needs of the Wampanoag Health Service.

In addition, in order to better manage the clinical aspects of care and strengthen the utilization review process, it was recognized that a medical database was needed for each patient. Such a system would capture diagnoses, medications, allergies, functional status, family history, and a personal health risk profile. Ideally this system would utilize information directly from the CHS system to avoid staff duplication of data entry.

In response to the findings of the health needs assessment and quality assurance reviews described above, the WHS moved to improve preventive health screening, and the treatment and tracking of chronic disease conditions. In 1990, a grant was obtained from the IHS to enhance patient care by developing a more systematic approach to preventive health screening within the context of managed health care. A strategic decision was made by the health program to develop direct linkages between office-based primary care preventive services, the WHS office, and the community health efforts of the public health nurse and the community health representative.

The most frequently cited reasons for neglecting preventive care in physicians' offices were as follows:

1. Physicians' disagreement on the efficacy of certain preventive activities recommended by experts and medical groups.
2. Lack of a clear consensus on guidelines.
3. Discomfort with and lack of training in patient education and counseling about prevention.
4. Overestimation by physicians of the time they devote to preventive health services and the number of services provided.

5. Lack of time, forgetfulness, and/or focus on acute or chronic problems.
6. Lack of financial incentives or compensation for the time involved in counseling or preventive screening.

Although these obstacles make the task of improving preventive health appear challenging, a number of recent developments make “now” an opportune time for this enterprise. One of the most important developments was the work done by the U.S. Preventive Services Task Force. This Herculean effort, by a number of experts in the field, distilled conflicting data and recommendations into a minimum and essential list of screening and counseling interventions according to age and gender risk groups. Another development was the “Healthy People 2000” initiative that outlines specific, measurable outcomes for health services delivery nationwide. From these national targets, the IHS has identified 61 specific goals that apply to American Indians and Alaska Natives.

Tribal health programs that rely mainly upon off-site contract health services have especially difficult challenges to overcome if the important elements of an effective prevention-oriented managed health care program are to be incorporated. The program emphasized the following basic components of the patient care enhancement project:

1. Health provider education.
2. Patient education and a personal health guide.
3. Preventive health flowsheets.
4. Computerized software and database system.
5. Provider reimbursement.

The tribe provides no direct clinical care except for the limited community nursing care of one half-time public health nurse. In addition, due to the small size of the tribal population (290 members) and the ample number of available primary care doctors (11), the potential strategy to financially “leverage” prevention into clinical practice by contracting only with those providers who are more receptive to improving clinical preventive care was not feasible. This meant that the program had to rely primarily on the good will, public relations, and the interest and education of providers, to influence their practice. It also meant that the design of the tracking and monitoring system had to be simple, provide the practitioner with useful “tools,” and require minimal additional steps in their practices, in order to gain their interest and full participation.

Generating interest in clinical prevention among local practitioners was critical to the success of the program. A one-day conference for local providers was conducted on Martha’s Vineyard with a former Chair of the U.S. Preventive Services Task Force as the keynote speaker. At the conference, the latest research and controversies in preventive health screening were discussed and the specific interests of the Wampanoag Prevention Project were presented to the group. Island providers

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who could not attend the conference were reached at a later date through a grand rounds presentation on clinical prevention given by one of the conference speakers at the Martha's Vineyard Hospital.

After reviewing hundreds of tracking sheets used in community health centers around the country, sets of flowsheets for insertion into patients' medical records were designed by the consultant. The flowsheets standardize guidelines, remind or prompt the provider during clinical encounters, and serve as the key data collection instrument for the computerized tracking system. Each physician office was visited by the consultant and the WHS community nurse to review the draft protocols and gain permission to place the tracking sheets into tribal members' medical charts.

In order to integrate into a cohesive, unified system the great amount of data collected from the preventive health flowsheets, the CHS system, and the patient registration data, as well as to be able to create reminders and enable off-site program management by a small number of tribal health staff, a computerized tracking system based in the tribal health office was needed.

After extensive research into existing computer tracking systems it was decided that *Med/Track*[®] was the most suitable one for this project because it had the advantages of compatibility with the database program in use and the ability to download from CHS patient registrations and IHS transactions, including diagnoses, procedures, types of services, service dates, and cost data. In addition, the program had great flexibility for performing data analyses, and generating reports and reminder letters.

The tribe decided to concentrate on a few selected chronic diseases during the initial stage of clinical prevention tracking and intervention. Special modules were designed to monitor and track health care and preventive services related to diabetes, hypertension, immunizations, lead screening, Pap smears, mammograms, acquired immunodeficiency syndrome (AIDS), and prenatal and perinatal care. Individual member health and health risk profiles can be generated by the software program, which also has the capability of producing a health risk profile for the community as a whole.

In addition to the importance of educating and reminding physicians to perform systematic preventive health screening and counseling, it is equally vital that tribal members understand the value of periodic screenings and request these services from their doctors. Interviews with tribal members suggested that it would be difficult to get attendance at evening or weekend sessions or health fairs for the purpose of health education; therefore, it was decided to do a mailing to each member. The mailing consisted of a cover letter introducing the preventive health program, emphasizing the importance of patients requesting preventive health screening at routine doctors visits, and mentioning that reminder letters would be mailed to them from the WHS if they were overdue for a particular screening test. In addition, a copy of the adult and/or child *Personal Health Guide*, created by the U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, accompanied the letter. This guide explains to patients the importance of various preventive health measures and encourages them to keep their own record of prevention activities in the booklet.

The tracking sheets have been placed in patients charts and data collection has begun. Evaluation of the prevention program will occur in two phases:

1. Year one: process evaluation. Examine whether or not community physicians are utilizing the tracking sheets and applying the recommended protocols systematically as part of their ongoing patient care, and if tribal members are requesting from their doctors that they receive applicable services.
2. Years two through five: outcome evaluation. Examine if the process of implementing this tracking and reminder system has had an impact on early identification of chronic disease risks, resulting in earlier treatment and ultimately less costly management of conditions.

Some of the lessons learned from this project are as follows:

1. Health providers are generally receptive to incorporating systematic preventive health screening into their office practice if they are offered education, included in the program design, asked to use simple reminder systems that fit with their current charting systems, and are offered some financial compensation for their efforts.
2. In order to increase the likelihood that practitioners will perform preventive services, a limited number of the most effective preventive health interventions should be targeted, based on their relevance in American Indian populations.
3. CHS programs present special challenges to implementing a project such as this because the delivery of care and the use of preventive health flowsheets occur off-site from the tribal health office and from the software tracking system. Also, because less influence is possible with a large number of private providers, each serving relatively small numbers of health program members, financial incentives are problematic.
4. In order to stimulate "demand" for preventive services from tribal members, a concerted and continued effort at patient education is required. A separate, user-friendly tracking and reminder sheet must be created for use by members.
5. Clinical information about procedures and diagnoses obtained from downloading claims data is useful but has significant limitations if used as the primary data source. The preventive health measures that may be of greatest interest are often not separately coded in claims information. The classic examples are the cholesterol, which is buried in a coded charge for a full chemistry panel, or an immunization, which is given during a well baby visit and not coded for reimbursement because the vaccine is

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provided by the state health department. However, as the federal government and third party payers impose more rigorous reporting requirements for reimbursement, the quality of claims data may improve. In addition to concerns about coding accuracy and omissions, the long delay between the purchase order obligation of funds and the financial closeout of that encounter may impair the timeliness and therefore usefulness of the CHS claims data.

6. Formal evaluation of the success of preventive health interventions is intrinsically difficult. Until enough years pass to enable more meaningful "outcomes" evaluation, more proximate indicators must be used, such as changes in screening rates and the costs associated with implementing such a program.

The issue of how to incorporate clinical preventive health screening and counseling in a health system that has been primarily oriented to curative care is now at the forefront of national health care policy affecting all populations and types of delivery systems. Indian Health Service and tribal contract health service programs need to continue to be proactive in requiring minimum standards for health promotion and disease prevention activities.

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Consultations that Improve Practice Management

The Indian Health Service is increasingly an outpatient care delivery system, following the national trend of declining hospital admissions and increasing ambulatory care visits. In 1993, the latest year for which statistics are readily available, Indian Health Service (IHS) and tribal hospital admissions totaled 69,000, while outpatient visits exceeded 5.5 million.

The challenges are clear. Demand for services is increasing, with the user population growing at a rate of 2.2% per year. IHS and tribal clinics are handling a growing number of patient visits and the patients seen tend to be sicker and their problems more complex. Resources are increasingly limited. Space is at a premium. The staffing patterns and ratios at some clinics do not support efficient and cost-effective practices and, in today's economic milieu, it is unrealistic to expect expansion of these resources. New Joint Commission on Accreditation of Health Care Organizations (JCAHO) and total quality management (TQM) guidelines are requiring IHS facilities to rethink the ways in which they are organized. Integration among departments and communication and cooperation between disciplines are becoming ever more essential.

The primary impediments are not people, but the systems. Quality Improvement methodology teaches that more is gained from improving systems so that the majority of "average" performers who would like to do better, can, and not by admonishing people to "try harder" or by just identifying and disciplining "bad apples."

The Practice Management Program (PMP), an IHS headquarters entity previously located in Tucson, Arizona, has been an innovative response to these many challenges. The Program has in the past provided consultation and training to field clinicians and local clinics to help with designing and managing ambulatory care systems. Because PMP staff offer advice and tailor solutions to each individual setting, these solutions have been viewed as "user-friendly" by service unit staff. This opens doors and builds bridges that can complement the activities of those with direct oversight responsibilities in Area offices and at Headquarters. Although the Program was discontinued in January 1994, plans to resume it continue.

The PMP services may be categorized into the following five areas: consultation, training, tool development and dissemination, promotion and support of "within-Area" expertise, and research. Since its inception in 1976, the PMP has been providing service units with on-site, in-depth consultation and training on the organization of their ambulatory care services. Over the years requests for consultation have grown steadily; between 1976 and 1993, 72 different clinics have been visited by PMP staff, and 31 of those visits have taken place since 1990. The vast majority of requests fall into the following categories: (1) developing or improving appointment systems, (2) streamlining walk-in systems, (3) assessment of staffing patterns and productivity, (4) design and renovation of clinic space, (5) decreasing "no-show" rates, (6) improving clinic flow, (7) coping with accelerating demand for telephone triage/telephone advice, (8) realignment of organizational structures within the outpatient department (the "who's really in charge?" question), (9) improving the clinical effectiveness of the IHS electronic record system (the Patient Care Component, or PCC), and more recently, (10) getting started using quality improvement approaches to problem solving in ambulatory care.

The PMP's consultants have all worked as clinicians and managers at the service unit level, giving them "front line" experience and credibility; they also possess skills in systems thinking and group process methods, which are crucial to successful consulting. Since many challenges are inherent to federal and tribal systems and related to their unique reservation locations, the PMP consultants' experience in IHS and/or tribal clinics is especially valuable. Most PMP consultations and courses are conducted by nurse-physician teams, demonstrating in practice the teamwork between disciplines that is essential for a smoothly functioning outpatient clinic. One of the usual outcomes of a consultation is that the requesting facility receives a detailed report of observations and recommendations, a report many facilities have used as a "blueprint" for improvement. At Kayenta, AZ, Linda White, RD, Service Unit Director, stated, "As a result of the PMP's consultation, we relocated physician offices out of the individual exam rooms thus allowing faster turnaround on the rooms." Steve Konicek, MD, Clinical Director stated, "Just going from one to two rooms per physician did amazing things for us."

Between 1986 and 1993, the PMP has conducted over 61 Outpatient Visit Planning (OPVP) courses at 47 locations, with over 70 IHS and tribal programs and more than 1500 individuals participating. The OPVP course is a formal two and one-half day program, designed to provide multidisciplinary training (physicians, nurses, pharmacists, lab technicians, health records and data entry personnel, administrators, etc.) in the effective organization and functioning of ambulatory care clinics. Tribal and community representatives are invited to participate. Each course participant receives a training manual and other reference materials. The course offers continuing education credit (for physicians, nurses, and pharmacists). As the course has evolved over the years, it has incorporated Quality Improvement (QI) approaches to problem solving, providing tools for dealing with future problems that inevitably arise during the implementation phase following the course. Dr. Patrice Whistler, former Medical

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Director, Cherokee Nation, OK wrote, "The process improvement (e.g., improved clinic flow . . .) leads to improved outcomes (e.g., more adults and children properly immunized, increased detection of early pregnancy)." At Warm Springs, OR, Dr. Tom Creelman, Clinical Director wrote, "I have had few programs and responses more effective, constructive, responsive and germane to direct care operations." Carolyn Johnson, RPh, Information Site Manager wrote, "By following the OPVP recommendations, I feel we have created a more efficient and sensible process to deliver health care."

The PMP has developed various tools in response to needs expressed by field sites. These tools commonly fall within one of the four following categories: triage protocols, clinical guidelines, administrative protocols, and patient education protocols.

Triage protocols help providers make appropriate decisions about how to identify a patient's full range of needs, and how to best prepare them for the provider's visit. For several years, the PMP collected existing triage protocols from local clinics and distributed these to other clinics that requested them. In 1993, the PMP developed a composite protocol, with input from many service units and service unit professionals, and now distributes this to all clinics participating in formal OPVP consultation and training, as well as to other clinics who request phone consultations. The PMP is piloting a new means of displaying the protocols in a Kardex® system to make it easier for nurses and other visit planners to keep reference materials at hand in the triage area.

Similar to the aforementioned method of sharing triage protocols, the PMP collects and redistributes a variety of locally developed, as well as nationally formulated, clinical guidelines. In this way the PMP serves as a central repository for practice management tools and resources. Examples include guidelines for laboratory monitoring of patients taking anticonvulsants or remittive agents for rheumatoid arthritis, and follow-up of patients with diabetes, hypertension, or other chronic diseases.

The PMP espouses the concept that carefully thought-out and consistently applied administrative protocols are critical to the smooth functioning of any ambulatory care unit. Therefore, the PMP encourages the development of clinic-specific policies and shares examples of these from other clinics. Some examples include policies for making appointments, managing missed appointments and late arrivals for appointments, "lab only" visits, "walk-in" physical examination requests, and requests for completion of forms such as those for disability or insurance.

The PMP also distributes samples of patient education protocols designed to be used with the PCC. These decrease the amount of documentation required and result in a record of patient education activities on the PCC Health Summary. PMP staff have recently collaborated with both the IHS Cancer Prevention and Diabetes Programs to create sets of patient education codes that match their patient education curricula.

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For a number of years, the PMP has worked hard to nurture practice management expertise within IHS Areas. Since 1990, 26 individuals from the field have served as instructors for one or more courses or have participated on the on-site consultation team. Not only has this benefited the clinics they visited, it has also helped the volunteer field instructors' own clinics as they have brought back home new insights and ideas. With this instructor training, several have gone on to organize their own courses. Between 1990 and 1993, eight individuals (with logistic support and supervision from the PMP) have conducted five training courses.

There have been disappointments, as well. No Area has yet designated an Area practice management consultant, although one Area has informally designated and utilizes one of their service units as a "model clinic." The PMP has felt that a partnership between a centralized program like the PMP and Areas and local clinics is the best way to meet the unique needs of the field, maintain clinical relevance, and achieve reasonable consistency in the application of practice management principles and effective training standards necessary for success.

Although there is considerable anecdotal and some preliminary research evidence supporting the effectiveness of the PMP's various practice management interventions, it is critical that the effectiveness of these interventions be evaluated in a more rigorous fashion. A formal evaluation of the training course, examining both short- and long-term outcomes, has been prepared and is awaiting funding and the resumption of the program. Although the program has been effective at a number of sites, it is clear that it has not worked equally well everywhere, even failing at some facilities. Further research is also needed to help the PMP identify prospectively those sites that will benefit the most from interventions, and to determine which interventions are best suited for a given site.

Many of the PMP's costs (instructor/consultant travel and per diem, reproduction of course manuals, meeting costs, etc.) are borne by the field programs, and its services are perceived to be valuable enough that on many occasions the PMP has been invited back to provide follow up consultations and/or courses.

IHS and tribal programs, like all other health care organizations, will be affected by health care reform in ways that cannot possibly be understood or predicted at this point. Health care reform is happening even more rapidly at the state level than it is at the national level, which means that its impact on IHS and tribal programs may vary to a considerable degree. The PMP could not possibly address all of the issues raised by the health care reform movement, but it does help people take a critical look at how they are organized to deliver services, and can facilitate the kind of interdisciplinary and interdepartmental discussions necessary to bring about constructive change. IHS and tribal programs can clearly benefit from the assistance of the PMP as they prepare to compete in tomorrow's health care delivery world.

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Managed Care Task Force

Managed Care is a reality for health care providers and consumers in the United States. Faced with the challenges created by this phenomenon, the California Area of the Indian Health Service and the tribes served by that Area Office responded with innovation and ingenuity.

Medi-Cal, the state Medicaid program in California, provides health coverage to some 6 million Californians, including as many as 75,000 American Indians and Alaska Natives. In the period between 1980 and 1993, enrollment in Medi-Cal rose by 79%, while the cost of the program tripled. Currently, the state spends about \$14 billion annually for Medi-Cal related services.

Managed Care is not a new idea in this state, as it has been in place in some counties in California for almost two decades, with more than 600,000 Medi-Cal beneficiaries (about 10% of the total) enrolled with the various managed health care providers (i.e., Health Maintenance Organizations [HMOs], Preferred Provider Organizations [PPOs], Integrated Healthcare Organizations [IHOs], and Independent Practice Associations [IPAs]) in the state.

Because of the increasing costs mentioned above, beginning in 1992, California instituted the Managed Care Expansion Plan, bringing managed health care to an additional 13 counties in the state and inaugurating several pilot managed care programs. A key component of the plan was the conversion of fee-for-service contracts to a capitated system of reimbursement that would eventually be used throughout the state. When the implementation of this Expansion Plan is completed, it is estimated that roughly half (around 3 million) of Medi-Cal beneficiaries will be served by a managed care provider. The target group of Medi-Cal beneficiaries for this expansion are those receiving Aid to Families with Dependent Children.

This expansion plan could have had a negative impact on the California Area tribal (contracted under Public Law 93-638) and urban Title V Indian health clinics. Most of these Indian health clinics were in the 13 counties covered by the new expansion plan. A capitated fee structure could have meant a reduction in third-party income to these clinics. Additionally, under this managed care reform activity, there

was the possibility that the Indian clinics would be excluded from reimbursement, as these clinics would need to compete with other local health care providers and clinics to "sign-up" both Indian and non-Indian Medi-Cal enrollees. If they were unsuccessful in this endeavor to enroll Medi-Cal eligible patients, they would not be able to bill for Medi-Cal reimbursement under either fee-for-service or capitation payment structures.

Other issues regarding this Reform plan included: (1) the protection of Indian sovereignty under the regulations of PL 93-638 (as agents of the tribes or urban Indian organizations, these clinics were accountable to federal, but not state law); (2) the loss of the clinic's "Indian" identity, due to the requirement that clinics would have to accept all Medi-Cal clients, regardless of ethnicity; (3) the loss of higher rates of Medi-Cal reimbursement to those Indian health clinics that are designated as federally qualified health centers (FQHC)*; (4) the inability to immediately meet the Knox-Keene accreditation standards (a set of quality assurance standards for health care facilities, similar to Joint Commission on Accreditation of Health Care Organizations [JCAHO] standards) to qualify for the Reform plan; and (5) the lack of marketing experience that most of their potential competitors (large clinics and health maintenance organizations) possessed.

To address these concerns, the California Area Director established the California Indian Managed Care Task Force in the spring of 1993. Membership in this Task Force included tribal leaders, 638-contract and urban Indian clinic administrators, and California Area office staff. The Task Force has met frequently over the past two years, working cooperatively with the State of California's Managed Care Division, the Health Care Financing Administration, the U.S. Public Health Service (Region IX), and the Office of the Assistant Secretary for Health, seeking solutions. As an outcome of this collaborative effort, the State of California:

- Recognized the concept of Indian tribal sovereignty. This recognition allows the Indian clinics to negotiate directly with the state and not follow the dictums of the expansion plan.
- Acknowledged, under Public Law 102-573, the Indian clinics' right to provide health care to American Indians/Alaska Natives, first and foremost.
- Recognized the need of the Indian clinics to provide culturally sensitive health care.

* The Health Care Financing Administration (HCFA) establishes specific minimum health care services that must be reimbursed by Medicare and Medicaid, if the services are provided at a Federally Qualified Health Center (FQHC) facility. In addition, HCFA establishes a minimum fee schedule that Medicare and Medicaid must pay for reimbursement, which is substantially higher than the standard HCFA reimbursement fees. Since most of the tribal and urban clinics in California are now classified as FQHC facilities, these clinics might lose higher reimbursement fees.

- Acknowledged the Indian clinics' FQHC status and, therefore, agreed to reasonable-cost reimbursement to the clinics.
- Accepted the automatic default enrollment of Indian patients back to Indian health clinics.

Currently, the Task Force is negotiating with the State of California regarding the State's proposed Dental and Mental Health Managed Care Reform Plans and is working closely with HCFA, regionally and at headquarters, with regards to Native American health care rights and concerns and the HCFA waiver process for the states. Additionally, the California Area Office is providing technical support to the Indian clinics in acquiring national JCAHO accreditation. Mock accreditation surveys are being conducted by Area Office health professional staff, and quality assurance computer software and on-site training have been provided to the Indian clinics, so that they might conduct their own monitoring of clinical activities.

As the momentum builds at both the state and federal level for a managed care model, it is incumbent on tribes and other Indian organizations to anticipate and prospectively develop strategies to deal with this reality.

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Women's Health Initiative Improves Access to Screening

The health of today's American Indian and Alaska Native women is vital to the well-being of current and future generations of this segment of the population. However, statistics show that American Indian and Alaska Native women experience morbidity and mortality from many conditions at rates that surpass those for women from other ethnic backgrounds.

For example, in the Indian Health Service Billings Area, the age-adjusted cervical cancer mortality rate for American Indian women in the years 1984-1988 was 17.4 per 100,000 women, over 5 times the U.S. rate of 3.1 per 100,000. In addition, the 5-year survival rate for American Indian women with cervical cancer in the Billings Area during 1982-1987 was 37%, while the U.S. white 5-year survival rate in the 1981-1987 period was 68%. These statistics are particularly disturbing since cervical cancer is a potentially preventable disease.

The data for breast cancer in American Indian women are also troublesome. While the *incidence* of breast cancer is not as high among American Indian women (the age-adjusted death rate in the Billings Area was 14.6 per 100,000) as in the U.S. All Races (27.3 per 100,000) during 1984-1988, the 5-year *survival* rate for American Indian women in the Billings Area has been lower (58% during 1982-1987) compared to the U.S. white 5-year survival rate (78% in 1981-1987). This lower survival rate among American Indian women may be partially explained by delayed diagnosis.

The Surgeon General's Year 2000 health promotion and disease prevention objectives for the Nation call for a reduction in deaths from cancer of the cervix to no more than 1.3 per 100,000 women, and an increase in the rate of Pap smear screening to every 1 to 3 years in at least 85% of women age 18 and older. Because of the increased incidence of cervical cancer in the American Indian and Alaska Native population, the IHS guidelines call for Pap smear screening annually. Another objective for the Nation is to increase to at least 80% the proportion of women age 40 and older who have ever received a clinical breast examination and mammogram, and to at least 60% those age 50 and older who have had them within the preceding 1 to 2 years.

The long-term Health Promotion/Disease Prevention objective for the Billings Area for cervical cancer is to maintain the mortality for carcinoma of the cervix at the level found in 1987-1989. Intermediate objectives established to accomplish this include the following: (1) all service units will demonstrate annually that, for women who live in the service unit catchment area, 50% of women age 20-54, and 50% of women age 55 and older who use IHS/tribal facilities, will have had a Pap smear within the last 14 months; (2) 90% of women identified with cervical dysplasia will have appropriate diagnostic and treatment procedures within three months of diagnosis; and (3) 90% of women who have a Pap smear will also be asked annually about tobacco use.

Another long-term objective is that the breast cancer mortality rate for American Indian women in the Billings Area will decrease by 10% from the level found in 1987-1989. Intermediate objectives to achieve this include: (1) at least 50% of women over age 40 who use local IHS facilities and who live in the service unit catchment area will have had a screening mammogram; (2) 90% of women who have had a Pap smear will also have had documented instruction on breast self-examination within the past year; and (3) 90% of women who have had a Pap smear will also have a documented breast examination performed by a health care professional within the past year.

Past data would suggest that too many American Indian women in the Billings Area were not receiving Pap smears regularly and that the women at greatest risk for cervical cancer mortality, older women, were the least likely to have been screened. Findings also showed that neither mammography screening, nor yearly breast self-examination instruction, nor clinical breast examinations were performed according to the objectives.

It is believed that women who are reluctant to see a male provider will more readily accept women's health care from a female practitioner. Two surveys of Indian women have been published that support this belief. In one, a New Mexico reservation, using attitude surveys and focus groups, found that women often do not seek preventive health services because they are uncomfortable with a male provider. In a second survey of Indian women age 45-74 living on reservations in North and South Dakota, 58% of respondents reported that they would prefer a female provider, and 12% would refuse a male provider.

To address these issues, the Billings Area established women's health clinics and offered extended hours to meet the needs of women who could not come in during regular hours. General clinic hours were also expanded to evenings, and in some cases weekends, to provide more time for women's health care. Added hours ranged from 8 to 80 hours per month, varying from service unit to service unit. The highest priority for services during these expanded hours was placed on women's health, in order to improve screening and follow-up for breast and cervical cancer prevention activities. Increased availability of on-site colposcopy has also facilitated timely follow-up of abnormal Pap smear results.

Efforts were made to increase the number of female providers available to staff these clinics and provide gynecological services. The Area hired and/or reassigned female providers to focus on women's health issues. Three female nurses have completed and five additional nurses are currently enrolled in Nurse Practitioner programs. The Area is also developing a Pap smear training program for clinical and public health nursing staff.

A visit planning strategy focuses on the screening needs of women at each clinic visit. The patient's chart is reviewed for the most recent Pap smear, mammogram, breast examination, and instruction on breast self-examination, to help the primary provider with reminders of unmet needs. When practical, these needs are taken care of at that clinic visit, rather than asking patients to make a return appointment.

By making a cumulative list of all Pap smear reports, generated by the reference laboratory, available to the clinics, women users who have not had a Pap smear during a specific period can be easily identified. A project is now underway to characterize those women who are noncompliant with Pap smear screening. When such women are actively using other services, the question becomes, Are we missing opportunities to perform Pap smears or educate patients about the importance of these tests? Once this group of women has been identified, they will be surveyed to find out what they perceive to be barriers to obtaining routine women's preventive health care.

A recent survey of all service units in the Billings Area revealed that efforts to expand women's health programs have been hampered by limited funding, inadequate resources, and/or insufficient staff. Nevertheless, those service units that employ one or more of the strategies described above have demonstrated the most success in providing women's health services. For example, the Wind River Service Unit has achieved the highest rates in all aspects of preventive services for women. This service unit does not have a dedicated clinic for women's health, but it does have three female providers who are always available for women's health appointments. The service unit also provides on-site colposcopy services; show rates for these appointments average about 75%. The Fort Peck Service Unit has the most well-established women's health clinic. This weekly evening clinic is staffed by a female nurse practitioner, and the show rate for appointments is also an impressive 75%. General clinic patients are also seen by other providers during this time, which further enhances utilization by women with families.

Women's health clinics, extended clinical hours, increased availability of female providers, and availability of on-site colposcopy have all had a positive impact on achievement of the objectives related to Pap smears, clinical breast examinations, and instruction on breast self-examination (Table 1). These efforts, however, have had minimal influence on Pap smear completion rates in the 55 and older age group. Future efforts will focus on reaching this group, using surveys and interviews to discover what may interfere with a woman's choice to obtain preventive health at regular intervals.

Table 1: Billings Area preventive activity rates, before and after interventions.

	1991	1994	Target
Pap smear rate			
20-54 years of age	31%	60%	50%
55 years and older	26%	42%	50%
Breast self-exam instruction	33%	74%	90%*
Clinical breast examination	90%	95%	90%*

* 90% of those having had a Pap smear within the past year.

Systematic and coordinated endeavors to increase the availability and utilization of preventive health services for women have been demonstrated to increase compliance with targeted screening activities. Further expansion and utilization of these strategies will undoubtedly have a positive impact on the health of American Indian women in the years to come.

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Indian Health Service Embraces the Electronic Clinical Record

There are many barriers to the delivery of high quality health care to American Indians and Alaska Natives. These include a highly mobile patient population, great distances to and between health care sites, cultural and linguistic differences, heavy clinic workloads, limited resources, significant turnover of health care providers, patient clinical records that are often voluminous and disorganized, and difficulty in tracking periodic patient needs over time and among different providers. For these reasons, health care often has tended to be episodic and limited to the chief complaint during most clinic visits. The Patient Care Component (PCC) of the Resource and Patient Management System was specifically designed to help overcome these barriers, facilitating more comprehensive and efficient care at Indian Health Service, tribal, and urban Indian health care delivery sites.

The PCC is a computer-based system that provides for the collection, integration, and storage of a broad range of health data resulting from inpatient, outpatient, and field visits. The system allows the local health care facility access to this information on its own computer network. Not only does it serve as a clinical information system, in addition, it can greatly assist in planning, management, and research.

The PCC is an electronic abstract of patient information rather than a complete electronic medical record, allowing the capture of the most essential clinical data concerning patient contacts with the health care system. It integrates records from various disciplines (physicians, clinic nurses, public health nurses, mental health workers, pharmacists, lab technologists, community health representatives, nutritionists, etc.) and from various facilities. Since information from this electronic abstract is so readily accessible, it is a useful index to the much more complete information contained in the rest of the health record.

The PCC provides information useful to health care providers and managers in the following ways:

1. A standardized summary of the most essential clinical information for a given patient, the *Health Summary*, can be printed out and placed in the

health record. Examples of the information listed on this Health Summary include medications prescribed, recent inpatient and outpatient diagnoses, and missed appointments. As with many components of the PCC, the data included in the health summary is locally modifiable to meet a given site's unique needs. Various standard health summary formats are available (e.g., well-child or diabetes health summary).

2. Patients with similar health problems or concerns (and related clinical data) can be entered in an automated fashion into patient registers within the *Case Management System*, allowing health care providers to better organize and thus improve care. Because these registers are much easier to set up and manage than conventional, manual ones, providers are more likely to take advantage of this capability, and more registers will be generated. Additionally, the information in these registers can be more comprehensive and current.
3. Periodic preventive services can be promoted using computer-generated *Health Reminders* (included on the Health Summary), such as when a Pap smear is due. Although the PCC package comes with reminders programmed according to nationally accepted, standardized practice guidelines, newer enhancements to the PCC will allow local sites to modify these standards based upon local needs and experience.
4. An extensive menu of standard clinical and management reports, the *PCC Reports*, is distributed with the PCC. These reports have been developed over the years to fulfill the majority of the data needs of clinical planners and managers, data needs that have been found to be predictable and recurring. All manners of standardized visit counts and clinical, demographic, quality assurance, and utilization reports, all with a great deal of flexibility in how they are defined and displayed, can be obtained from user-friendly menus.
5. When local clinicians or managers require an answer to a unique question or when they need specific information not readily available in the standard reports, the *Q-Man* search program can quickly retrieve the needed material. For example, this tool makes it possible to:
 - Perform valuable quality assurance and quality improvement tasks (e.g., select all patients with a diagnosis of renal disease who have been given nonsteroidal anti-inflammatory drugs during the past year; or identify all patients with diabetes and a positive tuberculin skin test but *no* record of having received drug prophylaxis with isoniazid);
 - Automate the creation of patient registers (e.g., special needs children, women at high risk for breast cancer, etc.);
 - Conduct epidemiologic and clinical research studies (e.g., determine

the prevalence of ankylosing spondylitis in a designated population, or find out how many women 18 to 65 years old with a clinic visit in the past three years have not had a Pap smear within that period).

Because this tool allows health care providers to quickly and efficiently gather data on when, how often, where, and to whom various services are rendered, it enhances the provider's ability to better monitor and manage patient care.

When properly used, the PCC can improve access to clinical patient data from various sources, enhance communication among members of the health care team, facilitate tracking of an individual patient's health care needs including the monitoring of chronic diseases and appropriate routine preventive care, and facilitate the tracking of patients with high-risk conditions or other special needs. For a given patient appointment, the PCC can help organize and then focus the health care visit to assure that the patient's most important needs are met that day. The PCC has been and will continue to be an invaluable tool in the ongoing effort to improve the quality of care provided to American Indians and Alaska Natives.

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On-Site Choctaw Disability Determination Clinic

Recently, the Mississippi Band of Choctaw Indians sponsored its third annual on-reservation disability determination clinic for the nearly 8,000 tribal members residing on or near their 22,000 acre reservation in east central Mississippi. The setting for this special clinic was the Choctaw Health Center, an Indian Health Service-funded, tribal-managed health department that provides the following: inpatient care in a 35-bed JCAHO accredited hospital; community health services; mental health, behavioral health, and social services; emergency and outpatient services including specialty clinics, such as a Women's Wellness Clinic and a Diabetes Clinic; dental services; pharmaceutical services; optical care; environmental health services, including an injury prevention program; and support services.

Currently, the tribe has over 80% of its adult population in the work force. Due to the Choctaws' success in economic development activities in recent years, the average unemployment rate is approximately 18%, which is lower than on many reservations. On-reservation, tribal-owned industry and entertainment businesses have flourished, making the tribe one of the top ten employers in the state; today, the tribe employs just over 4,500 individuals. Although the tribe's and its members' economic status have improved greatly over the past few years, some tribal members who are unable to take advantage of job opportunities on the reservation due to disabling conditions have had great need for alternative resources to assist them with their daily existence and health care.

In March 1993, after learning about an on-site disability determination project held on the Fort Apache Reservation in Whiteriver, Arizona, the Choctaw Health Center contacted the Atlanta area regional Disability Determination Services (DDS) office and requested that they assist the Mississippi Band of Choctaw Indians to develop and conduct a disability determination clinic on the reservation.

After much planning and preparation, the first disability screening clinic, conducted by the Mississippi Social Security Administration and the Disability Determination Service, was held in August 1993. The processing of applicants was greatly expedited due to advance preparation by staff from the Choctaw Health Center and other tribal programs (the "Choctaw team") including identification of potential

clients; provision of transportation; creation of individual files that included all the necessary forms with the client's name, address, and social security number already on them; and copies of relevant medical histories. An entire wing of the health center was closed off to accommodate the 30 staff members from the Social Security Administration (SSA) and Disability Determination offices (the "Strike team"), including Disability Determination physicians, one adult and one pediatric psychological examiner, and a medical examiner to conduct various psychological or physical examinations, and field office staff to process the paperwork. At no cost to the DDS, 30 staff members from the Choctaw Health Center also participated in the clinic, including radiology and laboratory staff, and the facility's nursing staff who assisted the physicians. The Choctaw team provided a client hospitality area during the clinic for participants and their children to receive refreshments at no cost to the SSA or DDS programs.

The first disability screening clinic was viewed as a great success by all who participated. The Disability Determination Services of Mississippi soon realized the on-site method of conducting disability screening at the local community level was more cost-effective than having clients report to area field offices for these services. The SSA team at Choctaw reported an average cost per case (\$75) that was lower than the average cost to DDS for processing cases throughout the state (\$97). Timeliness of processing was good, too. Of the 156 members of the tribe who were evaluated, 47 received presumptive disability decisions, and 30 of the 47 cases were cleared and received their first benefit check within 10 days.

As a result of these eligibility determinations, income was generated for the elderly or those with disabilities. Those eligible for Supplemental Security Income (SSI) payments were also eligible for Medicaid and, thus, additional funds became available for special services for children and health care services in general. Through December 1993, the combined SSI and SSA payments to participants who were determined eligible during this clinic totaled \$82,519. The combined, continuing, monthly payment is approximately \$18,500 or about \$220,000 per year for those identified during this project's first effort. Forty-nine percent of the awards were made to children. This was notable because the one area where local Social Security field office staff had thought they were having some success in reaching the Choctaw people was through the Special Education Program at the schools.

In April 1994, a second disability clinic was conducted. During this clinic, 154 members of the tribe were screened for disabilities, 40 of whom received eligibility status during that clinic. The combined 1994 income projection as a result of the two DDS clinics on the reservation was \$371,918. More importantly, additional resources to enhance the always underfunded Indian Health Service health care budget at Choctaw were identified as a result of these clinics. Potential Medicaid collections for the Choctaw Health Center along with cost avoidance for contract health services for fiscal year 1994 totaled \$1.3 million. These savings were the result of 87 patients receiving Medicaid benefits as a result of having been determined eligible for SSI.

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Potential Medicaid collections for the Choctaw Health Center along with cost avoidance for contract health services for fiscal year 1994 totaled \$1.3 million.



A third disability clinic was held in April 1995; 108 members of the tribe were evaluated, 30 of whom were found eligible for benefits. As of June 1995, due to the combined efforts of the state DDS, the Social Security Administration, various tribal programs, and the Choctaw Health Center's staff working together with tribal members, a total of 117 members of the tribe, many of whom are elderly, disabled, or children, are now receiving disability income to assist them with their health care and daily living.

Cultural and language barriers sometimes created problems for members of the Choctaw tribe attempting to access the Social Security Administration system. In the past, members of the Choctaw tribe had to apply for these services off-reservation at public offices, where the lack of staff who were able to understand the Choctaw language or interpret the English language to members of the tribe proved to be a deterrent to successful participation. It could take up to three years for a member of the American Indian population to have their disability status approved under the field office intake system. As a result of these on-site "clinics," the Mississippi Band of Choctaw Indians has developed a closer working relationship with the staff at the local Social Security and Disability Determination Services offices. With all agencies and tribal programs working together under this vastly improved system, the processing time for applications has been reduced enormously.

The goal of the Choctaw Outreach Project was to overcome the barriers (logistical, cultural, and language) for the Choctaw people that prevented them from obtaining services from the Social Security Administration. This required reinventing the relationships between the DDS, the Choctaw tribe, and the SSA. The project has proven so successful it is anticipated that these clinics will continue to be repeated annually.

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Teleradiology Reduces the Distance to Health Care on the Reservation

The Navajo Area of the Indian Health Service covers an expanse of twenty-five thousand square miles overlapping the three southwestern states of Arizona, New Mexico, and Utah. The land is rural and isolated with a population of less than seven persons per square mile, with no communities having more than 7,600 residents. Most roads are unimproved and difficult to traverse during inclement weather. Care is provided to the 150,000 resident members of the Navajo Tribe through a system of six hospitals and six large health centers. Due to circuitous highways and roads and the substandard condition of many roadways, the average driving time from one facility to another is just under two hours, and longer in winter months.

One of many issues that is inherent in providing comprehensive health care under such conditions is timely and competent interpretation of x-rays when there are no radiologists on site. Three years ago the Navajo Area undertook a project to improve triage of orthopedic cases (particularly pediatric cases) at the six outpatient health centers where there are no full-time radiologists or orthopedists. By sending x-rays via phone lines to one of the larger hospitals on the reservation where a radiologist and/or an orthopedist is accessible, a more accurate diagnosis and more appropriate treatment plan can be rendered.

This consultation process saves some patients an unnecessary transfer to a distant referral facility and speeds the process of referral in those cases where this is needed. It is estimated that this teleradiology project saves three to five unnecessary orthopedic transfers each month on the reservation and many thousands of dollars over and above the initial and on-going costs of the purchase and maintenance of the equipment. More important, but difficult to quantify, has been the delivery of more timely and competent care.

Currently, about 25 sets of orthopedic-related x-rays are transmitted monthly from the health clinics to one of the hospitals on the reservation. Challenges that have affected usage of this service include long transmission time (8 to 15 minutes), waiting to obtain an open telephone line (receiving facility's phone lines busy), and the time-consuming (ten or more minutes) process of digitalizing the films prior to

transmission; these have contributed to the lower than expected usage rates. Some of these problems are compounded by the antiquated phone system (copper wire rather than the currently emerging standard of fiberoptics) on the reservation, but this is the case in most rural locales, especially in western states.

Additionally, after hours (evenings, nights, weekends) assistance with interpretation of selected other types of x-rays (e.g., cervical spine) has been requested by emergency medicine staff at some facilities on the Reservation. In the fall of 1994, the Navajo Area expanded its teleradiology activity to include the transmission of radiographs to, and interpretation by, radiologists at the University of New Mexico Medical Center Hospital (UNMCH) in Albuquerque, New Mexico. Although it is too early in the implementation of this new arrangement to derive any meaningful fiscal data (only 74 transmissions to UNMCH from Navajo Area health facilities had taken place through May 1995), anecdotal information would indicate there has been increasing use of this service by the Indian Health Service facilities. During the winter months, three to six radiological cases were referred to the University each month. In May 1995, the university radiologists were consulted on 14 cases. Since the University is charging only \$25 per case for its services, the 74 transmissions to UNMCH have cost the IHS Navajo Area health facilities only \$1,850 in professional fees, about the cost of one air ambulance transfer. If only one unnecessary transfer has been avoided, the service has paid for itself. A more comprehensive cost-benefit analysis should be available later this year.

The same transmission issues enumerated above affect this application, as well. The willingness of the radiology technician at local sites to perform the tasks necessary to send the radiographs (particularly after hours) has been identified as an important key to the continued success of this cooperative venture between the Navajo Area and the University.

The Navajo Area Radiology Committee recently met and identified several issues that needed to be addressed related to teleradiology. These included: (1) training of more radiology technicians at each site to use this modality, (2) potential lease of more technologically advanced phone lines for each facility (this would decrease transmission time to seconds but at an estimated annual cost of \$36,000 per facility), (3) gathering more information on current use and costs, (4) looking for other sources (both for transmission and interpretation of films) that might be available to the Area for this activity, and (5) educating physicians, particularly in the Emergency Department, about the availability of these services.

In summary, telemedicine, and particularly teleradiology, is becoming a practical and cost-efficient adjunct to health care delivery in rural areas. Further experience with this technology, especially as the quality of the equipment, speed of transmission, and resolution of the images improve and, hopefully the costs decrease, will be useful both to patients and health care providers within the Navajo Area and elsewhere.

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Improving Quality in Clinical Processes The Alaska Native Medical Center's Experience

The Alaska Native Medical Center is a 140-bed acute care medical center located in Anchorage, Alaska. With over 850 employees, the center provided 189,000 ambulatory care encounters, 4986 admissions, 5400 surgical procedures, and 881 deliveries during 1994. The medical center is also the primary provider of community health outreach programs to Alaska Native populations residing in towns and villages throughout the Anchorage Service Unit, which encompasses most of southcentral Alaska. Another role the Alaska Native Medical Center (ANMC) plays is that of a tertiary referral center. Alaska Native hospitals, located in "bush" communities across Alaska, routinely refer patients to the Medical Center for specialty care. Physicians from the Medical Center provide phone consultations to referring field facilities, and they frequently travel to remote hospitals to hold specialty clinics.

ANMC's value statement reads, in part, "We value the principles of Quality Management to continually improve the quality and values of our services." The actualization of this declaration has been a long, slow process. It began with the seminal interest of a few physician leaders ten years ago and gradually spread throughout the organization, leading to introductory quality management courses first presented in 1990. Soon after that, more advanced training about quality management methods and tools was offered to senior leadership and mid-level managers. Champions who were willing to try the principles and tools in their daily work at ANMC emerged as knowledge grew about the quality management movement.

In late 1991, ANMC's leadership began work on organizational mission, vision, and value statements. During this process, the administration obtained input from groups of internal and external customers, including other health care organizations throughout Alaska, Alaska Native leaders, and the employees of the Medical Center. The final document was approved and circulated in mid-1992 and much of the next 12 months was spent nurturing organizational awareness of and support for it. Work began on the development of a strategic plan for the Medical Center in late 1992. Key ANMC employees and representatives of Alaska Native groups met with an outside consultant and developed the first draft of the plan, which was finalized and put in action in mid-1993.

Currently, all ANMC employees are encouraged to attend introductory quality management courses taught by ANMC staff and senior managers, including the Service Unit Director. Specialized training in statistical process control, clinical guideline development, measurement techniques, methods and tools, and other technical aspects of quality management are frequently provided to ANMC employees from all levels of the organization.

The Alaska Native Medical Center has experienced both success and failure since choosing to transform itself from "business as usual" to an organization committed to using the principles of quality management. One of ANMC's first successful examinations of a clinical process occurred in 1991 in the hospital's Emergency Department, where over 52,000 patients receive acute care services annually. The large patient workload frequently led to frustrations, both for staff who endured a chaotic work environment, and for patients for whom waiting times were as long as six hours.

A team of emergency room personnel worked for several months to improve the processes used to screen and treat emergency room patients. After using flow charts to analyze the process, the team developed theories to explain causes for the delays patients encountered. They then moved to redesign the process, creating a method to triage patients into two distinct pathways, one for the acute emergency patient, and another for urgent care. Urgent care was made available 12 hours a day, seven days a week. Other improvements included restructuring schedules for support staff to provide increased clerical coverage, additional training to improve staff skills, and the creation of provider/nursing staff teams.

After implementing these changes, the redesign team measured employee and patient satisfaction with the new processes and found a significant improvement. Patient waiting times and the frequency of people leaving without having been seen also improved. The team's many hours of work to redesign the process clearly paid off.

Another success story from the perspectives of both the patients and the health care providers was the redesign of the entire process for sedating pediatric patients who are undergoing computerized tomography (CT) scans. A staff pediatrician had described the problem as follows:

Preparing and sedating pediatric patients for CT scans impedes efficient clinic function, often results in ineffective sedation, and puts patients at risk. In a recent preliminary survey, it was found that there is a minimum of 10 to 18 pediatric outpatients per month who have CT scans requiring sedation administration and intravenous placement by nursing staff in the pediatric clinic. Each patient occupies a nurse and a room for two hours prior to the exam. There is no recovery observation, putting the child at subsequent risk. Furthermore, the Radiology Department estimates that up to 40% of these procedures need to be terminated and rescheduled because of inadequate sedation.

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Although the total number of pediatric patients who required sedation was low, the pediatric staff predicted that improvement of this process would result in better clinical outcomes and reduced disruption of clinic flow, leading to shorter patient waiting times. If true, this would probably reduce the frustration and dissatisfaction of patients and clinical providers alike.

To tackle this challenge, a team was formed that included a pediatrician, a pediatric clinic nurse, a CT technologist, a nurse from the inpatient pediatric ward, an anesthesiologist, and a day surgery nurse; the Service Unit Director joined the team as its facilitator in the quality improvement process.

The team first agreed on a mission statement, which was “. . . to develop and implement a process to sedate children for CT scans that results in: (1) a reduction in the percentage of procedures resulting in inadequate studies or requiring rescheduling; (2) decreased downtime for pediatric clinic rooms; and (3) increased staff satisfaction with the process.”

The team members then created flow charts to describe the processes involved; they discovered that it involved approximately 40 steps, several of which called for waiting periods by staff or patients before moving to the next step. With further scrutiny, the team identified flaws in the process, such as the high sedation failure rate, frequent and long waiting periods, lack of standardized scheduling procedures, inadequate patient teaching, poor use of scarce clinic space, inadequate sedation procedures, and an inefficient sedation recovery process. Complete redesign was the only answer.

Revamping the sedation process required the team to identify the key quality characteristics of the best process design. They incorporated these attributes into a new flow chart, recognizing constraints posed by resources, space, and personnel. The team then considered how the new process might fail and revised the plan again to avoid those pitfalls. Customer input was also sought. The redesigned process also required that other work take place, such as the creation of a clinical guideline for sedation and monitoring, the development of an educational plan for patients and their families, and training for physicians and other staff members.

Once the redesign was completed and agreed to by the staff, the team carried out the plan and began to monitor results. After 12 months, 112 pediatric patients had gone through the new CT process. Even the design team was amazed to see that the sedation failure rate had fallen from 40% to less than 1%.

Organizational change can neither be assured nor measured by the sheer number of employees receiving quality management training, the quantity of improvement projects underway, the commitment expressed by senior management, or adherence to external regulatory requirements. Although all these ingredients may be necessary, the true measure of success is improvement in quality and value from the customer's viewpoint. And while the focus is on patient satisfaction, it will likely be found that the improvements delight external and internal customers alike.

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- Analyzes the Process and Results of Medical Treatment
- Develops and Communicates Practice Guidelines
- **Builds Networks of Providers**
 - Seeks Continuous Quality Improvement
 - Facilitates Access to Services and Treatment
 - Supports Patients and their Families In Finding Care
 - Plays Coordinating Role to Enhance Communication and Care

Success Through Interagency Cooperation in the Aberdeen Area

The Aberdeen Area of the Indian Health Service encompasses the four states of Iowa, Nebraska, and North and South Dakota. The western half of South Dakota accounts for nearly one-half of the Indian population of the entire Aberdeen Area. It is also the most rural region of the Area, making access to health care sometimes problematic.

Historically, funding and services have not been available to this Indian Health Service Area to provide for all of the health care needs of its service population. Additionally, there are many challenges to the delivery of health care to the American Indians of this geographic region, including difficulties with recruitment and retention of health professionals, maintaining outdated medical facilities, traveling long distances to health care delivery sites, lack of transportation, and obstacles to providing health education to both the community and health care personnel. Other federal health care organizations in this same region contend with similar logistical, funding, and staffing concerns in providing health care to their particular constituencies, as well.

In an effort to address some of these common issues, a Federal Hospital Consortium (FHC) was established in 1992. Partners in this consortium included the Department of Veterans Affairs (VA), Indian Health Service (IHS), and Air Force facilities west of the Missouri River in South Dakota.

The original purpose of this collaboration among federal health care facilities was to improve patient access, expand buying power, share financial and human resources, and collaborate on projects that would be mutually beneficial. The Federal Consortium included four IHS service units (Pine Ridge, Rosebud, Cheyenne River, and Rapid City), two VA Medical Centers (Fort Meade and Hot Springs), and Ellsworth Air Force Base. Motivated by the interagency success of this larger FHC, the IHS service units have joined together to form an additional Lakota Consortium that has been the focal point for collaboration and coordination intramurally within the IHS as an agency. These service units continue to be involved with the FHC, as well.

One example of cooperation within the FHC is shared service agreements that allow the VA Medical Centers to perform general surgery on IHS patients for one-third the cost normally paid to a private sector provider. The Lakota Consortium has collaborated to establish a Prime Vendor contract for pharmaceuticals at the IHS facilities, yielding an estimated first year savings of 15% to 30% from an annual pharmacy budget of approximately \$7 million. These cost savings were realized by pooling buying power for leverage to obtain a much more favorable drug pricing structure from pharmaceutical companies, and "just in time" reordering/restocking of drugs that has nearly eliminated storage and warehousing costs. An added benefit of "just in time" reordering has been the elimination of outdated drugs, which had previously been a problem.

Another recent joint federal venture is the development of an ambulatory care clinic in Rapid City. The National Guard supplied the facility, the VA staffs it, and the IHS provides radiology and laboratory services. Access for patients who are veterans (including American Indians who are veterans) is enhanced (formerly these veterans had to travel over sixty miles to access VA services) and the savings generated are considerable. In addition, the Department of Veterans Affairs pays IHS for services performed on non-Indians, so this is an added source of income to the IHS facility. The IHS charges the VA only about one-third the cost of these services in the private sector, so that the VA also benefits financially from the arrangement.

All of this collaboration has improved communication and coordination to the point that change is occurring within and among participants. The cooperation enables members to monitor change in the local and national health care environment and provides impetus and additional resources for improvements in response to these needs. One example of this sharing from the Lakota Consortium is the telemedicine demonstration project with the Pine Ridge Service Unit and the Mayo Clinic (Rochester, Minnesota) that is discussed extensively in another article in this publication (*Telemedicine Successful on a Rural Reservation*). Based on the experience of this one service unit, the other three service units are exploring similar relationships with Mayo Clinic; St. Alexius Hospital, Bismarck, ND; and Sioux Valley Hospital, Sioux Falls, SD. These other two private facilities have telemedicine programs, primarily for teleradiology, allowing access to faster and improved telecommunication services at up to a 50% reduction in costs compared to the current contractor for radiologic services and interpretation.

Congress has for several years urged all agencies in the federal sector to work cooperatively when this would be appropriate and mutually beneficial. These efforts within the IHS and among federal health care providers in the Northern Plains are in concert with this request. They have yielded increased access, cost savings, improved efficiency, better federal inter- and intra-agency relations and, in general, better managed patient care for all.

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Immunization Levels Within Reach of Year 2000 Goal

In 1977, the Indian Health Service joined the national initiative to achieve an immunization level of 90% or greater for U.S. children (that is, at least 90% of children receiving health care would have received all the recommended immunizations by the age of 24 months). This commitment was the impetus for the creation of a mechanism that allows Indian Health Service (IHS) and tribal health care providers to conduct quarterly surveys of the immunization status of American Indian and Alaska Native children who are 3 to 27 months of age. This monitoring has now been a regular activity of the Agency for many years.

Although many IHS providers felt that immunization levels of American Indian and Alaska Native children were high, initial reviews of medical records showed that only 42% of children were adequately immunized for their age. Poor record keeping was postulated as one contributing factor. However, it was clear that a periodic immunization assessment was needed, not only to document progress toward reaching the 90% objective, but also to help health care providers stay focused on this objective. There is a saying that "what gets measured gets done," and with the establishment of a quarterly reporting system, IHS immunization rates began to climb.

The program's infrastructure needed to be able to accomplish the task in a large agency, made up of many diverse and decentralized units, like the IHS. There are 461 health centers and health stations, and 49 hospitals operated by the IHS and the tribes. Most of these facilities are west of the Mississippi River, and almost all are in rural locations. These facilities are administered by a total of 143 IHS or tribal service units that are usually defined by the reservations or tribes they serve. These service units, in turn, are administered by 12 regional administrative units called Area Offices.

The IHS is as unique and varied as are the over 530 tribes it serves. No one Area resembles another. For example, the Portland Area has no hospitals, just health centers; there are no IHS facilities in the California Area, just tribally-operated clinics; the Navajo Area serves only one tribe, unlike the other 11 Areas; and the Oklahoma City Area, which claims the largest population of federally recognized tribes, does not have reservations, as such. As a result of this diversity, each IHS Area is allowed a

certain amount of autonomy within the structure of the Indian Health Service. This has proven a challenge to those who attempt to implement IHS-wide programs.

With some ingenuity and grit, the developers of this monitoring infrastructure worked out a network of immunizations coordinators, one at each service unit, who were responsible for maintaining the tracking system. Their quarterly reports on the immunization levels of children in their service units went to the Area Immunizations Coordinator, who would compile all the service unit reports for the Area Director and the IHS Immunizations Coordinator. The reports from the Areas would, then, be merged into a national report for the Director of the Indian Health Service.

This program is remarkable because there is no direct chain of authority within this network; the Area and IHS Immunizations Coordinators are only consultants. The service unit Immunizations Coordinators answer to their respective Service Unit Directors, who in turn answer to their respective Area Directors, who answer to the Director of the IHS. This is where the real influence lies; for without the commitment of the several Directors of the Indian Health Service since the immunization initiative started and their influence over the Area Directors, the success of the IHS Immunization Program would not have been achieved.

And what has been that success? With the implementation of the quarterly reporting system, the immunization rate quickly jumped to 60% and has risen steadily to just under 90% for age-appropriate immunizations for approximately 36,000 children 3- to 27-months of age. The importance of this effort to raise the immunization levels throughout the country is demonstrated in Table 1, which shows how dramatic the drop in vaccine preventable diseases has been for each disease following the introduction of vaccines.

Table 1. The number of cases of vaccine preventable diseases in the United States in 1993, compared to the maximum number of such cases ever reported in any given year.

	Maximum Cases	1993 Provisional	Percent Change
Diphtheria	206,939	0	-100.0
Measles	894,134	277	-99.9
Mumps	152,209	1,630	-98.9
Pertussis	265,269	6,132	-97.7
Polio (paralytic)	21,269	0*	-100.0
Rubella	57,686	188	-99.7
Congenital rubella syndrome	20,000	7	-99.9
Tetanus	1,560	42	-97.3

Table received from the Centers for Disease Control and Prevention, 1995.
* Subject to change due to late reporting.

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As mentioned earlier, the majority of the American Indian and Alaska Native population resides in rural areas west of the Mississippi River. Delivery of health care on Indian land can place a real strain on resources. To achieve the results described above required the assistance of a unique group of health care workers, the community health representatives (CHRs).

The CHRs are tribal employees, usually American Indian or Alaska Native themselves, who serve as liaison between service unit professional staff members and the community that they serve. One of their roles is to seek out those in the community in need of health care and assist them in obtaining the needed services. Working in collaboration with IHS, especially the public health nursing staff, the CHRs identify children due for vaccination and, if parents do not respond to a letter reminding them that their child is due for immunizations, they will personally visit the family and discuss the need for and availability of immunizations. Since public transportation is nonexistent on Indian land, transportation may also be arranged to facilitate immunization of the child.

The Indian Health Service is within easy reach of achieving the *Year 2000* goal for immunization of children. Successful achievement of this goal will depend on the continued involvement and commitment of all team members, including administrators, physicians, nurses, community health representatives, clerks, and other health care providers.

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Success Through Interagency Cooperation in the Aberdeen Area. James Cournoyer, Service Unit Director, PHS Indian Hospital, Rapid City, South Dakota.

Immunization Levels Within Reach of the Year 2000 Goal. Patrick Johannes, PHA, former Communicable Disease Coordinator, Indian Health Service Headquarters West IHS, Albuquerque, New Mexico.

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