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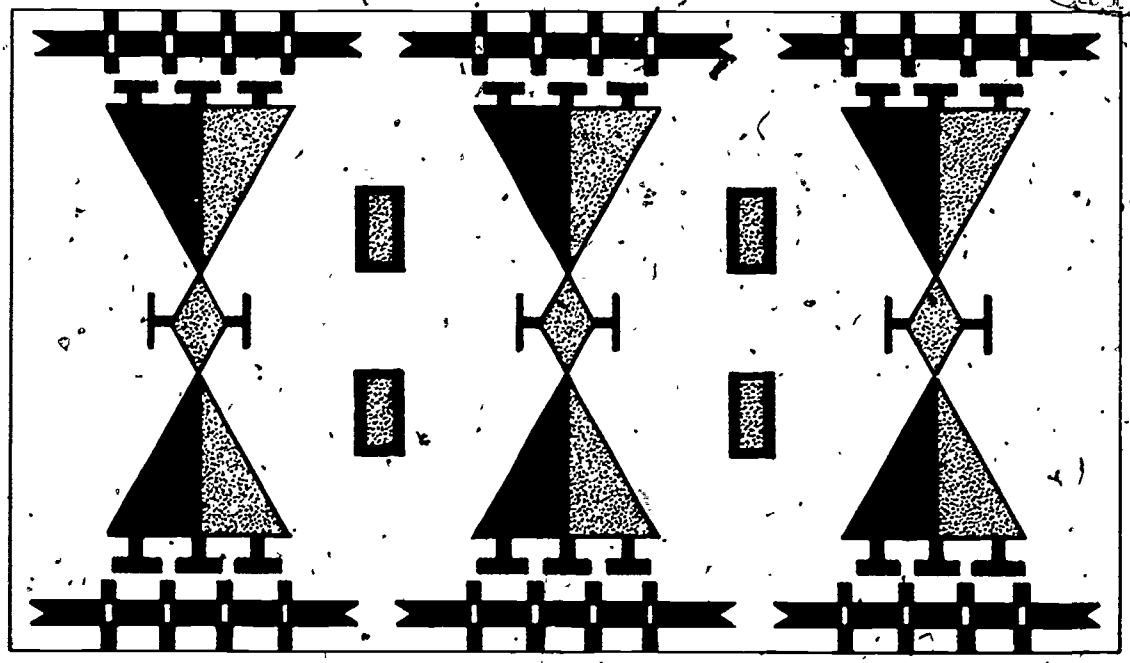
ABSTRACT

The Indian Health Committee met in Aberdeen, South Dakota, during the week of May 23, 1977 to (1) review the environmental health services provided to the tribal units on the 15 Indian reservations located in North Dakota, South Dakota, Nebraska and Iowa, and (2) make recommendations for improvement or expansion of current programs, if needed. The Committee observed conditions on the Fort Berthold, Standing Rock, Cheyenne River, Lower Brule, Crow Creek, Winnebago, Yankton, Santee, Rosebud, and Pine Ridge Indian Reservations. Service unit facilities and staff were visited at Turtle Mountain, Eagle Butte, Winnebago, Yankton, Rosebud, Pine Ridge, and Rapid City. Observations were made on the following specific facets of the environmental health programs reviewed by the Committee: accident control, solid and liquid waste disposal, water supply, institutional environmental health, sanitations at celebrations, zoonoses control (vector and vermin), housing and premises sanitation, epidemiology, and environmental health personnel. Among the recommendations were that: the staff be expanded; closer coordination between the Indian Health Service environmental health programs and state and Federal agencies having related concerns should be given priority attention; current efforts to encourage the development of appropriate sanitary codes and regulations and effective enforcement procedures by the tribal councils be continued. (NQ)

ABERDEEN AREA INDIAN HEALTH SERVICE

ENVIRONMENTAL HEALTH PROGRAM REVIEW



Conducted by:
Indian Health Committee
of the
National Environmental Health Association

National Environmental Health Association

Review of Environmental Health Program

Aberdeen Area

Indian Health Service

May 23-27, 1977

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National Environmental Health Association

Review of Environmental Health Program

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Summary

A meeting of the National Environmental Health Association's Indian Health Committee was convened in Aberdeen, South Dakota, during the week of May 23, 1977. The Aberdeen Area Office of the Indian Health Service is the focal point of a comprehensive health delivery system for the inhabitants of 15 Indian reservations located in the states of North Dakota, South Dakota, Nebraska and Iowa. The purpose of the meeting was to review the environmental health services provided to the tribal units on these reservations and to make recommendations for improvement or expansion of current programs, if needed.

The Committee met with Dr. Rice Leach, Area Director, and other Area Office staff on Monday, May 23, 1977 for a briefing on the area programs and activities, as well as to lay the groundwork for the ensuing week of meetings and observations. Dr. John G. Todd, Director, Division of Program Operations, IHS, Rockville, Maryland, and Eugene R. Meyer, Chief, Environmental Health Services Branch, IHS, Rockville, Maryland, also were present and provided the Committee with an orientation of the existing Indian Health Service programs and the present and pending legislation which impacts upon the environmental health programs.

Following the Area Office conference, the survey party, accompanied by the IHS staff, emplaned at Aberdeen for a flight north to Fort Totten, North Dakota, Indian Reservation and on to Turtle Mountain Indian Reservation for

meetings with service unit staff. The survey committee then proceeded to Minot, North Dakota, for wrap-up conferences of the daily activities.

May 24, 25,26 and 27 were spent traveling and observing conditions on the Fort Berthold, Standing Rock, Cheyenne River, Lower Brule, Crow Creek, Winnebago, Yankton, Santee, Rosebud, and Pine Ridge Indian Reservations. Service unit facilities and staff were visited at Turtle Mountain, Eagle Butte, Winnebago, Yankton, Rosebud, Pine Ridge and Rapid City. In addition, a visit and survey was made to the Marty Mission School on the Yankton reservation at Marty.

The morning of May 27 was spent in the Rapid City Service Unit. The committee met in executive session to review and clarify questions generated during the week's activities and to lay the foundation for developing this final report. The review officially ended at noon, pending drafting the final documents covering committee observations and recommendations, which follow in this report.

The attached itinerary for the week of travel, observations and meetings testifies to the rigorous schedule maintained by the committee (see Appendix). Early morning departures, hours of travel interspersed with meetings, and late evening wrap-up sessions were the mode of operation. Committee members expressed the opinion, however, that the review was extremely revealing, productive, and that the National Environmental Health Association should establish a permanent revolving committee to continue this program review service in the future.

Federal Responsibilities to Indians

From a Statement by the Director, Indian Health Service

The United States Department of Health, Education, and Welfare administers a variety of health programs, including Medicaid and Medicare, to the general population who qualify for participation, including American Indians and Alaska Natives (hereinafter collectively called Indians). In addition to its responsibilities to the general public health, the Department provides special federal health services to Indians as a result of the treaties with Indian Nations and laws passed by Congress pursuant to its authority to regulate commerce with Indian Nations as specified explicitly in the Constitution and other pertinent authorities.

The Indian Health Service is the organization through which the Department of HEW carries out the special and unique federal responsibilities in the field of Indian Health. In 1978, this agency will provide special Indian health care services to some 577,000 Indians living on or near federal Indian reservations, in traditional Indian country in Oklahoma, and in hundreds of communities in Alaska. In the past several years, other Indian people living elsewhere in the United States in some urban areas have benefitted from limited IHS program activities as directed by Congress.

The Indian Health Service goal is to elevate the health status of Indians to the highest level possible. The mission is two part: first to assure the availability of comprehensive health services, and secondly to provide opportunities for Indian management and operation of health programs. During its 22 years under the Department of HEW, the IHS has developed and operated a health services delivery system designed to provide a broad spectrum program of preventive, curative, rehabilitative and environmental services. This

system integrates health services delivered directly through IHS facilities and staff with those services contracted for, taking into account other health resources available to Indians. The system is managed through 88 local administrative units known as Service Units. These units are grouped into larger cultural-demographic-geographic management jurisdictions which are administered by IHS Area and Program Offices.

Direct IHS Services comprise the majority of services provided through this system. They are delivered in, and in connection with, a variety of IHS facilities, and by IHS staff. Currently, 51 hospitals, 99 health centers (including 26 school health centers), and over 300 health stations are utilized. The IHS direct health care activities are carried out by some 9,000 staff members, over half of whom are Indians. A full range of professional and support personnel is included, with strong emphases on extending the capacities of the limited numbers of available professional workers through widespread use of assistants, aides, and technicians. Most of these people are Indians trained by the Indian Health Service. In addition, the IHS contracts with over 300 hospitals, 800 private physicians and clinic groups, 300 dentists, and 350 other providers of related health services, where IHS facilities are not available, or to supplement those available. Since 1955, 17 hospitals, 19 health centers, and 58 field stations have been constructed as new or replacement facilities. Admittedly, this is slow progress in the effort to adequately serve the Indian people's needs. Therefore, a marked acceleration in facilities construction is underway.

A replacement hospital has been newly opened at Claremore, Oklahoma. Others are being constructed at Santa Fe and Acomita, New Mexico; are planned or being constructed at Bethel, Alaska; Whiteriver, Arizona; Red Lake, Minnesota; Ada, Oklahoma; and Cherokee, North Carolina. Plans for new health care

facilities are underway for Sisseton, South Dakota; Rosebud, South Dakota; Sacaton, Arizona; Browning, Montana; Winslow, Arizona; Harlem, Montana; Shiprock, New Mexico; Chemawa, Oregon; Lummi, Washington; Menominee, Wisconsin; Poplar and Lame Deer, Montana.

The high incidence of certain diseases among Indians has been related to the lack of safe water and adequate means of waste disposal. Early efforts to correct this situation were limited to the provision of technical assistance, health education and motivational activities. Because Indian tribes and families lacked the financial resources to acquire needed facilities, progress in improving the environment was minimal. Therefore, Congress passed the Indian Sanitation Facilities Act in 1959, enabling the Indian Health Service to cooperate with Indian tribes, bands and groups to construct and provide essential sanitation facilities, including water supplies and waste disposal facilities for Indian homes and communities. Through 1976, over 2,330 sanitation facilities assistance projects have been undertaken.

An important element in this effort to improve the environment of Indians has been a cooperative agreement entered into with the Indian housing programs of the U. S. Department of Housing and Urban Development and the Bureau of Indian Affairs. Under this agreement, the Indian Health Service provides sanitation facilities and/or technical assistance leading thereto for new and improved homes constructed through the housing agencies. With the completion of all projects authorized through 1976, approximately 92,000 Indian homes will have been provided water, waste and/or other sanitation facilities, nearly half of which were new or improved housing units constructed by federal or tribal housing programs.

Self-Determination

The second part of the IHS mission, to provide opportunities for Indian management and operation of health programs, has been given impetus by Congress

in the passage of Public Law 93-638, the Indian Self-Determination and Education Assistance Act of 1975. This act provides authorization needed for IHS contracting and grant activities, including authority for IHS to fund tribal health institution start-up costs; designate personnel assignments; and design or lend technical assistance toward other needed new methods for facilitating the aim of Indian self-determination in the health field.

Authorizations to deal with insufficent numbers of trained health workers, the backlog of unmet health needs, and inadequate services and facilities for tribes wishing to operate IHS programs and institutions are contained in PL 94-437, the Indian Health Care Improvement Act. Thus, PL 94-437 authorizes actions which are companion to, and necessary for, full realization of the purposes of PL 93-638.

The authorizations under these two laws clearly delineate Congressional intent and commitment to enabling Indian self-determination and to eliminating, on a planned, incremental basis, within a specified time, the causes of long-standing unmet Indian health needs. The Indian Health Service has held some 110 meetings with Indians in nearly 50 locations throughout the nation with regard to published regulations under PL 94-437. Some 4,300 people have attended, representing about 800,000 Indians.

Substantial efforts have been made to train IHS employees who will be responsible for carrying out the manifold IHS roles for implementing the Acts. Steps have also been taken to strengthen the IHS capacity to be administratively responsive to the demands of the tribes and tribal organizations that will participate in the potential benefits under these Acts. Also, the IHS continues to adjust its view of itself to accommodate the major changes these Acts could bring about in Federal-Indian relationships.

Fiscal Year 1978 Funding

The 1978 amended request for Indian Health Services of $368,066,000 includes (a) an increase of $6,000,000 to implement Title I (Training) of PL 94-437, (b) an increase of $3,663,000 under Title II (Services) to fund 34 mature alcoholism projects formerly funded by NIAAA and (c) $12,000,000 for mandatory cost increases. A decrease in 1978 of $16,073,000 in program level is reflected to fund additional 1978 mandatories. This decrease includes (a) [illegible],000,000 to implement the Indian Self-Determination Act, PL 93-638, (b) [illegible],000 for maintenance and repair, (c) $2,176,000 for equipment and (d) $397,000 for 30 less management and program direction positions. The 1978 request does not provide staffing or funds to open the new clinic at Ramah, New Mexico, and the inpatient areas of the new hospital at Acomita, New Mexico. No additional staffing is provided for the new replacement hospital at Santa Fe, New Mexico.

The Indian Health Facilities request for 1978 of $74,425,000 includes (a) $50,240,000 for Sanitation Facilities (9,500 homes), (b) $3,210,000 for equipping the new hospitals at Acomita and Santa Fe, New Mexico; (c) $850,000 for a sewage system at Mt. Edgecumbe, Alaska, and (d) $20,125,000 for phased construction of replacement hospitals at Cherokee, North Carolina; Ada, Oklahoma; Bethel, Alaska; Red Lake, Minnesota; and Whiteriver, Arizona.

The amended budget does not fully restore the $16,073,000 needed to maintain the current level of Indian Health Service Activities.

National Environmental Health Association

Review of Environmental Health Program

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General Observations

The Aberdeen Area Office, Indian Health Service, is responsible for providing comprehensive health services to Indian Tribal Units of 15 Indian Reservations located in the states of North Dakota, South Dakota, Nebraska and Iowa. Operations are carried out through 13 service units which serve the reservation population directly. Four of these units are associated with health center units and nine with hospital units. Administratively, the Aberdeen Area is divided into four districts with district staff providing direct supervision over several service units. The District Office at Minot, North Dakota, serves the Fort Totten, Turtle Mountain and Fort Berthold Service Units. In South Dakota, the Mobridge District Office serves the Cheyenne River and Standing Rock Service Units; the Brookings District Office serves the Sisseton-Wahpeton, Yankton-Santee and Omaha-Winnebago Service Units; and the Rapid City District Office serves the Pine Ridge, Rosebud, Pierre and Rapid City Service Units.

The scope of the mission and responsibilities for environmental health services emanating from the Aberdeen Area office are overwhelming in view of operational constraints established by treaties, tribal mores, inter-tribal differences, inter-governmental working relationships and the territorial dispersement of populations served by the district office and service unit personnel. Maintaining the strong organizational structure and highly competent and self-motivated staff is necessary.

Professional engineer and registered sanitarian personnel at the area and district levels supervise and provide technical assistance to the service unit sanitarians and environmental health technicians. While program support and coordination is provided through the area and district levels, program development and implementation responsibilities are at the service unit level. This is in keeping with the philosophy of the Indian Health Service -- programs are developed in cooperation with the tribal units and the community health boards which have been encouraged and developed at the service unit level. Service unit directors and environmental health staff work with tribal representatives on the community health board in developing environmental health programs compatible to the people. Wherever possible, tribal units are encouraged to actually plan, organize and operate health programs.

It was evident during the Review Committee visits that a determined effort is being made to develop Indian capabilities for planning and carrying out their own programs. Review Committee members were highly impressed with the interest and ability of the Indian Health Service Unit directors and the environmental health technicians with whom they met and discussed programming. Working relationships between Indian and non-Indian personnel were excellent, and the teamwork observed throughout the visit is one of the major strengths of this program.

Environmental health programs, once initiated, function with little or no enforcement authority by Indian Health Service staff, as this is a responsibility of the Indian Tribal Units. The Indian Health Service assists the tribes in the preparation of codes and ordinances relating to environmental health. In most instances, however, these regulations are not enforced. Successful environmental health programming at the service unit level is highly

dependent on the salesmanship and public relations ability of the sanitarian. In this respect, the importance of input by indigenous Indian environmental health personnel at the service unit level is the critical factor and cannot be over-emphasized.

Dr. Rice Leach, Aberdeen Area Director, expressed the need to retain a close relationship between the clinical and environmental sides of the comprehensive community health programs serving the tribal units. He expressed a concern for developing better team approaches to delivering the health services at the service unit level and encouraging more comprehensive community approaches to health programming. He also said that "we need to treat the population as well as the disease." Dr. Leach believes that tribal input into program development is essential and that tribes should contract for services now provided by the Indian Health Service.

Handicaps in maintaining operational relationships with the tribes exist because of the highly political character of the organizational structures. It appears that changes in political leadership within the tribe generally signal sweeping changes in the memberships of boards and staffs within tribal government. This requires renewed Indian Health Service staff effort to orient and develop effective operational relationships with new appointees. If this practice were to extend into health units and services taken over by tribal government, a strong cadre of Indian Health Service staff would always be required to maintain stability during periods of reorganization. This is only one of the many dilemmas which the Indian Health Service faces in achieving its ultimate goal of Indian self-determination.

An example of this type of problem -- on one of the reservations, the Indian Tribal Council formally requested that the assignement of total responsibility for fire protection be turned over to the tribe by the Bureau of

Indian Affairs. This included transfer of a sizeable sum of money for operational purposes plus equipment. This arrangement existed for approximately one year, after which time the tribal unit ran out of funds and elected to return the responsibility for management of the fire protection system to the BIA. Instances such as this sensitized members of the Review Committee to the pitfalls that can occur in the shifting of total responsibility for activities to tribal units and gave rise to the belief that the Indian Health Service must maintain programming capabilities wherever Indian Self Determination is exercized, at least until such time as the capability of the continuing operation of the service by the tribal unit is assured.

Service Unit directors have overall responsibility for all health programming within their jurisdictional units, including the environmental health programs. Environmental health staff members, on the other hand, are assigned to the service unit by the area office and receive technical and professional direction from the district sanitarian. During discussions with the service unit directors, it became apparent to the Review Committee that the directors were preoccupied with personal health problems, such as maintaining medical staff and expanding clinical services, and environmental health programs were peripheral to their concerns. When the statistics on notifiable communicable diseases and accidental injuries are examined, there is ample evidence of the need for strong environmental control programs to be integrated into the overall health programming of each service unit. Dr. Leach's concern for developing programs on a more comprehensive basis, with strong team relationships between the clinical and environmental factors, is encouraging and timely. The following observations were made on specific facets of the environmental health programs reviewed by the Committee:

Accident Control

According to one of the service unit directors, accidents are the greatest health problem of Indians. Statistics tend to bear this out. Seventeen percent ($1.5 million annually) of direct patient care funds are allocated to providing services to accident victims, according to a source interviewed during the visit. On a statistical basis, each man, woman and child on one reservation appears for injury care three times each year. In another instance, the Review Committee observed two emergencies involving children with serious cuts being cared for in one of the service unit hospitals. Most of the injuries occur on the home premises or inside the home, with falls, burns and cuts the most prevalent cause. Inadequate maintenance of the premises, improper solid waste disposal and behavior patterns reportedly contribute to the high accident rate in all service units visited. Junk automobiles, broken glass, sharp metal and related trash account for many unnecessary injuries. Efforts by the environmental health staff to promote improved systems for storing, collecting and disposing of solid waste are slowly showing results. Even with the eventual success of these efforts, however, a good health education program on home and personal safety appears to offer the best prospects for reducing the present accident rate.

A promising health education program for injury control is being developed by the Brookings Service Unit under the leadership of district sanitarian, Arnold Brown. The program is based on a four-fold approach: (1) a close working relationship on the problem with tribal Injury Control committees; (2) intensified epidemiological follow-up studies of accidents on the reservation; (3) improved educational approaches aimed at modifying behavior patterns, and (4) environmental control activities, including improved sanitation and changes in housing facilities.

The district sanitarian also has established an excellent working relationship with the Extension Service at South Dakota State University at Brookings for developing and providing educational approaches to accident prevention and injury control. This cooperative effort will conserve the limited Indian Health Service manpower and intensify the overall effort in accident control within the service unit. If this is successful, the program will be expanded to serve other units within the Area Office jurisdiction.

Education must be stressed heavily as a means of reducing accidents; a program that requires much time and manpower. This problem is not unique to Indian reservations, but here solutions must be devised which are cognizant of the cultural and environmental conditions that are unique in tribal settings.

Solid Waste Disposal

The controlled collection and proper disposal of solid wastes presents a major program effort for the environmental health staff. Acceptable systems for collection and disposal of domestic garbage and refuse are inadequate or lacking on most reservations. Abandoned cars, accumulation of trash, and insanitary storage of garbage are common in most housing areas on the reservations, contributing directly to higher accident rate, vector control problems and other related environmental hazards.

Tribal units are showing increased interest in developing improved collection and disposal systems and in assuming responsibility for their operation. Abandoned automobile disposal programs have been made attractive to tribal units by the income that can be realized. Several waste recycling operations in the region are contracting with tribal units in the area, and one car crusher was operating at one service unit at the time of the visit.

Flight and tour observations by the survey team over the reservation helped confirm the popular use of open dumps as an expedient method of solid waste disposal. The fact that the sanitary landfill is not aggressively pursued as a common system for solid waste disposal is probably due to (1) low priority on Indian Health Service achievement schedules; (2) few sites are currently known to be health nuisances (potential notwithstanding); (3) widespread abandonment of automobiles, and (4) high unit costs for equipment, personnel and maintenance. Landfills should be pursued as the most feasible system of solid waste disposal, with their importance as well defined as in good housing and water supply protection. With the obvious availability of land in areas of light population density, such utilization is both expedient and desirable.

The collection and sanitary disposal of domestic garbage and refuse pose serious economic problems. Developing fiscally sound collection and disposal systems for widely dispersed populations is a real challenge for the environmental health staff and interested tribal units. The survey team observed an approved sanitary landfill system near Wagner, S.D., which is operated by the Yankton tribal unit. Unfortunately, the operation is financially handicapped because the costs exceed revenues produced by reservation users. Efforts to extend services to non-Indian communities peripheral to the reservation have not succeeded to date.

As long as federal and state governments vacillate in enforcement of solid waste disposal regulations, there is little reason to anticipate any strong movement among tribes and the area communities to utilize the more costly method of sanitary landfilling or to combine them with regional collection systems. Despite this handicap, however, the review committee was impressed by the efforts of several tribal units to develop and support such systems. The promotional efforts of the environmental health staff and cooperation with

tribal units are to be commended and encouraged; however, there is evidence of need to develop even stronger working relationships and support by state and federal units of government that have responsibility for overall enforcement of waste disposal regulations.

Liquid Waste Disposal

The problem of liquid waste disposal for Indian homes and communities in the area have been easier to solve on a programmatical basis as a result of the Indian Sanitation Facilities Act passed by Congress in 1959. The Indian Health Service provides community sewage disposal facilites as evidenced by the numerous small waste stabilization impoundment systems utilized by Indian communities and housing developments and programs to up-grade individual sewage systems. One can safely speculate that this program has contributed significantly to the declining rate of bacillary dysentery and related enteric diseases during the past 10 years.

Water Supply

The availability of adequate supplies of potable water for Indian homes and communities is a general problem in the Aberdeen IHS Area. In some areas, such as Eagle Butte, this is a major health problem. This region is one of the most difficult in the nation in which to obtain groundwater. Quality problems involve high mineralization and many cases of high temperatures. A classic example is found on the Rosebud reservation where water supply is cited as the number one environmental problem. During dry periods, dug wells dry up and many people must haul water in five gallon containers from Mission or Rosebud or rely on commercial water haulers from the town of Winnebago. When water is available, it is highly mineralized, and in some cases, groundwater temperatures run as high as 140 degrees F. Here the developement of a

rural water district is in the planning stages and may become reality in the near future.

Rural water authorities have been established in some water poor areas. They tap regional surface impoundments and supply potable water in ample quantities over large regions, including the Indian reservations within them. One such project is now being developed in the area of Eagle Butte, S.D. The $17.5 million project includes the Cheyenne River Indian Reservation, of which Eagle Butte is part, and will utilize 600 miles of water distribution pipe in providing potable water from Lake Oahe (an impoundment on the Missouri River) to small communities, housing developments, ranch headquarters, and other areas of need. Indian Health Service engineers and sanitarians work closely with these water authorities to coordinate tribal needs and to utilize the Indian Sanitation Facilities Act as a source of matching funds, where appropriate.

In most instances, the community water systems are chlorinated and fluorides are added where the water systems contain less than optimum levels. The operation and maintenance of these systems has been undertaken by tribal public utility units, with technical input from the environmental health staff. Considerable time and expense have been expended in training Indian personnel to operate and maintain these systems. This is a continuing and very successful effort. Treatment plant operators are generally certified under the applicable state certifying mechanisms. Excellent training modules have been prepared by the Black Hills Training Center located at the Rapid City District Offices, and they are coming into progressively broader use.

Institutional Environmental Health

Dr. Emery Johnson, Director of the Indian Health Service, emphasizes that fully half of existing Indian reservation hospitals can never achieve accreditation by the Joint Commission on Accreditation of Hospitals. He says their

design and structural condition simply do not meet existing standards and do not economically lend themselves to renovation. Observations by the survey team bear out Dr. Johnson's concern. The classical example is found on the Rosebud reservation where the service unit hospital exemplified all the problems of an aged, outmoded structure which obviously presents extensive maintenance problems. Without exception, health care facilities observed by the committee are old and present varying problems in maintenance and housekeeping. Marginal housekeeping practices noted during the visit were discussed with service unit directors and sanitarians in several of the hospital facilities. It was pointed out that housekeeping services suffer in part due to a lack of clear administrative and supervisory direction in the organizational structure. There also appeared to be a need to up-grade housekeeping training and to instill a better self-image and pride in the housekeeping staff in carrying out this vital aspect of the institutional environmental control program.

The Review Committee visited a school for Indian children at Marty Mission, a facility turned over to the tribal council by a Catholic order, which houses several hundred Indian youth from all over the United States during the normal school year. Buildings and furnishings are old, and there is apparently no aggressive maintenance program. There appears to be an excellent working relationship between the environmental health staff and the maintenance staff at the Mission School, but it was evident that facilities for food handling were marginal. Since the environmental health staff has no enforcement authority, progress in achieving improvements is slow. It was pointed out that it took several years to get the food service staff to remove insecticides from the food storage area, and insanitary wooden cutting blocks are still being used in food preparation areas.

The committee expressed serious concern over the fire safety problem at the Marty Mission school because of the obvious potential for a disastrous fire and loss of life in the dormitory structures. The buildings are old, systems of egress are somewhat limited, and there is no sprinkler system, despite the fact that this is a multi-storied wood frame building. Obviously, the tribal unit operating the school faces severe financial limitations. The team would hope that the Indian Health Service might be able to encourage and work in concert with the Bureau of Indian Affairs in securing funding to meet this safety need. The school obviously meets a very important educational need and merits a serious effort in this respect.

Sanitation at Celebrations

The Pow Wow is a tradition among the Indian tribes in the Aberdeen Area, as well as many other Areas. Each Indian community of any significant size has a Pow Wow grounds or celebration area where Indian groups meet for scheduled celebrations, rodeos and ceremonial gatherings. These events may be attended by several thousand people who need sanitary facilities, food and camping or trailer parking areas. Visits to such sites at Eagle Butte and Winnebago revealed that efforts have been successful in bringing about desirable sanitary control programs to protect the health and provide a comfortable environment for the participants. This is a difficult and time consuming task for the environmental health staff. It was particularly interesting to learn, at the Winnebago site, that the tribal council issues licenses to food vendors and requires them to present a certificate from the Indian Health Service saying they have attended a food handling training program. This is an excellent example of a cooperative relationship between the IHS environmental health staff and the tribal unit. The emphasis on developing improved sanitation

practices at ceremonial grounds deserves continued priority in the minds of the survey team. It serves as an excellent showcase and promotional tool for selling good environmental health practices. It is a motivator "par excellence" and a demonstration project opportunity that would be very difficult to duplicate.

Zoonoses Control (Vector and Vermin)

Programs for zoonoses control are at best fragmented and lacking a strong overall procedural protocol. While there is sensitivity on the part of the environmental health staff for maintaining a program for prevention of arthropod and rodent-borne diseases on the reservation, the comparatively low incidence of such diseases generally has not engendered a high overall priority in this area. Arthropod-borne viral encephalitides have been a sporadic problem on several of the reservations, particularly in the North Dakota area, but the incidence currently has subsided, possibly due to climatic influences more than surveillance and control programs.

Programs are maintained for mosquito surveillance where the threat of mosquito-borne diseases exists. However, on more than one occasion, it was pointed out that mosquito specimens collected for species identification, a technically difficult process, have to be shipped to the Aberdeen office for analysis. Problems with packaging and shipping frequently result in damaged specimens, which limits their usefulness and complicates species identification. Despite specific training for the service unit environmental health staff, there is evidence of a potential breakdown in this facet of the program due to lack of qualified trained field personnel. Staff in the Aberdeen office is limited in the support they can give field personnel under the present program.

Other vector-borne diseases (Rocky Mountain Spotted Fever, Plague, etc.) do not appear to be a critical problem at this time, despite the presence of vectors on the reservation.

The potential exists for serious community problems from rodent populations wherever there is open dumping of garbage and related trash, which was the case during the committee visit at Belcourt. While baiting practices and related eradication programs may offer temporary relief, continued emphasis on improved methods of solid waste disposal is needed.

Rabies immunization programs are to be commended. The knowledge that rabies can be found any time feral animal populations are present is ample justification for continued effort and emphasis on this protective measure. The Review Committee was concerned with the nearly universal reliance on private agreements between reservation sanitarians and local veterinarians for carrying out rabies immunization programs and believes that better standing operating procedures for securing such services should be established, probably with veterinarians being contracted for service on an annual basis. The potential problems of a zoonotic nature affecting reservation populations who live very close to the feral animal population would seem to justify the stronger more reliable program approach.

The committee was quite cognizant of the epidemiological data which indicated a comparatively low incidence of zoonoses in the Aberdeen Area. While this might justify a lower order of priority than some of the more serious concerns, such as water supply and accident control, measures to prevent any outbreak or increase in incidence of such diseases should be continued. Assurance that such a level of prevention is maintained, in the judgment of some of the committee members, will necessitate a stronger, more comprehensive areawide approach to zoonoses control.

Housing and Premises Sanitation

Housing developments and housing improvement programs appear to consume a considerable amount of environmental health staff time. New housing is being

developed with funds from the U. S. Department of Housing and Urban Development and the Bureau of Indian Affairs, coordinated through the tribal housing authorities. The Indian Health Service environmental health staff is consulted in planning and approval of sanitary facilities serving these housing units and for guidance and assistance in operational and maintenace programs which are required following occupancy of new units.

Housing maintenance appears to be one of the principal environmental problems on all reservations visited. BIA, HUD, tribal housing authorities, and the IHS all have varying degrees of review, approval and maintenance training responsibilities within the complexity of housing programs carried out on the reservations. The tribal housing authorities appear to be the one agency having consistent responsibility in all cases, but there appears to be no effective program for assuring that occupants are properly trained in housing maintenance and that maintenance programs are effectively carried out. Funding is available for occupant training under the housing program, but such training does not appear to achieve intended goals. This may be because there is no continuing educational reinforcement of the initial maintenance training program.

Cluster type housing developments have been predominant in new housing on the reservations. It was pointed out repeatedly to the committee that this arrangement tends to generate higher crime and vandalism rates and is contrary to traditional Indian lifestyles and social mores. Recent experiences with more scattered housing and self-improvement projects indicates fewer maintenance problems and anti-social conditions. While this trend in new housing may provide relief, the environmental health staff still has to provide support and guidance to tribal units responsible for operating and maintaining existing cluster units. This has become a major health education challenge.

Epidemiology

Reporting of health conditions which appear to have environmental control implications and require epidemiological follow-up by the environmental health staff appear to have broken down as a result of the high rate of physican turnover during the last few years. This is unfortunate because, in the minds of the committee, a close working relationship and reporting system should be maintained between the medical and environmental components of the Indian Health Service Units as an essential element of environmental epidemiology in comprehensive health programming.

Recognizing that Infection Control committees exist within the hospital environment for purposes of upgrading and intensifying efforts to prevent the spread of disease, members of the team suggested that a more comprehensive epidemiology program might be obtained by extending the responsibility of the Infection Control committees to include reservation areas served by the hospitals. Membership in such committees should be expanded to include the input of all component interests on the reservations, including tribal, environmental, administrative, and medical.

Environmental Health Personnel

During the week of observations, the survey team was impressed with the quality of the environmental health staff, and concluded that the greatest strength in the Indian Health Service program in the Aberdeen Area is the dedication of its staff. In terms of competency and commitment this staff rates very high. It was evident that sanitarians serving in the Indian Health Service face a much greater challenge than most of their counterparts in typical health department settings. They must be well versed in historical and cultural

background of Indians as well as having a high level of professional competency. Not only do they have to provide the essential technological input and support for a wide range of complex and somewhat unique environmental programs, but they must manage contractual relationships, promotional activities, operational and maintenance supervision for utilities and housing facilities and spend inordinate time maintaining good public relations with tribal units and the complex of other federal and state agencies.

Committee members were particularly impressed with the interest, enthusiasm and apparent ability of the Indian environmental health technicians with whom they met. The development of competent Indian staff is an ongoing process which is vital to the long range success of IHS programs on these reservations.

The real problem the survey team sees is insufficient environmental health staff. The relatively few environmental health personnel are faced with covering long distances and negotiating with multiple agencies and organizations to maintain the current level of programming. Their accomplishments are highly commendable. In view of the fact that travel time accounts for between 40 and 50 percent of all available environmental health staff time, however, the available productive manpower limitations on programming are readily apparent. Any significant improvements and expanded operations will have to come from expanded staffing.

Obtaining the complexity of programming which was observed over the rather large jurisdictional areas of the Aberdeen Area requires teamwork between the environmental health staff and other professional units within the organizational structure. Some improvement can be achieved with the stabilizing of the medical staff, which appeared possible after July 1, 1977. The continued promotion of the team functioning concept expressed by Dr. Leach during the initial meetings with the committee is an essential element in achieving the maximum capability of the environmental health staff as a service unit component.

Recommendations

1. Environmental health staff should be expanded, possibly adding one trained environmental health technician to each service unit staff.
2. Service unit directors should be encouraged to take a more comprehensive view of the role and function of the environmental health organizational component in their overall health program planning.
3. An organized system for supervision and training of the institutional housekeeping staff should be established. One possibility is to appoint head housekeepers, giving them direct responsibility for institutional safety and sanitation, and making them answerable directly to the service unit director, with environmental health staff providing corrolary supervision and technical support.
4. Closer coordination between the IHS environmental health programs and state and federal agencies having related concerns should be given priority attention. This is particularly important with U. S. EPA involvement in sanitary facilities programs, Department of Housing and Urban Development in the housing program, and state health agencies in food control programs.
5. Continued use of the Activities Criteria Schedule as a program planning and progress evaluation tool is strongly indicated. The current skeleton staffing and loss of man-days in travel by environmental health personnel places a heavy burden on programming. Planning is an excellent tool and should maximize productivity of available staff and the quality of their activities.
6. Expansion of the Brookings District Accident Control Program into other districts in the Aberdeen Area should be given serious consideration. This program involves development of tribal Injury Control Committees, an active epidemiological study of serious injuries, health education, and

close cooperation with the state Cooperative Extension Service to provide a basis for building effective long range accident control programs.

7. Ongoing programs to develop and maintain economically feasible solid waste disposal systems on the reservations must be given increased emphasis. Current studies regarding the development of "green box" programs and transfer stations for solid waste collection should be continued and encouraged as a means of better serving areas of low population density scattered within the tribal units.

8. Current efforts to encourage the development of appropriate sanitary codes and regulations and effective enforcement procedures by the tribal councils should be continued. This is an apparent area of weakness which frustrates effective control programming.

9. Improved systems for reporting suspected cases of environmentally-related illness and injury to the environmental health staff should be developed and maintained as an essential element of the environmental epidemiological program. This should include any instances where clinical observations indicate potentially serious problems where environmental stress may be a causative factor. In addition, it is recommended that each Service Unit in the Aberdeen Indian Health Service Area form its own Infection Control Committee with an environmental health component. Such component should be active and coordinative in epidemiology and resolution of such stress problems.

10. Utilization of the excellent resources of the Black Hills Training Center at Rapid City should be continued for upgrading the abilities of Indian personnel associated with the public utilities, housing authorities, operation and maintenance units and institutional housekeeping. This is a sound investment of time and money.

11. The possibilities for securing the funding necessary to assure adequate fire protection for children and staff at the Marty Mission School should be explored with the Bureau of Indian Affairs and other potential sources of federal assistance.

12. As environmental health services are modified, program considerations should be made for the pending increased industrialization which will pose occupational hygiene perplexities. In-service training for sanitarians, technicians, tribal council, environmental committees, and workers should be utilized.

Appendix

Initial Itinerary for Aberdeen Area Review

Sunday, May 22, 1977

National Environmental Health Association Review Committee and Indian Health Service Headquarters personnel arrive at Aberdeen, S.D.

Monday, May 23, 1977

8:30 a.m.	Area Office Orientation Meet with Dr. Leach, Director Aberdeen Area IHS Briefing by Aberdeen Area Environmental Health Staff Dale Johnson, Theodore Ziegler, Thomas Goninion and Lee Lunsford
11:00 a.m.	Depart by charter aircraft; fly over Fort Totten and Devils Lake to Rolla, North Dakota.
1:00 p.m.	Arrive at Rolla; meet Thomas Crow, District Sanitarian, Terry Christianson, Field Engineer; Joseph Jerome, Environmental Health Technician (lunch).
2:00 p.m.	Visit Belcourt Hospital; meet with Clarence Frederick, Service Unit Director; tour Turtle Mountain Indian Reservation (government vehicle).
5:30 p.m.	Leave Rolla for Minot, North Dakota for overnight.

Tuesday, May 24, 1977

7:00 a.m.	Leave Minot; fly over Fort Berthold and Standing Rock Reservations to Cheyenne River Reservation.
10:00 a.m.	Arrive Eagle Butte; meet Russell Vizina, District Sanitarian; Michael Verschelden, Field Engineer; Clarence Runs After, Environmental Health Technician. Visit Eagle Butte Hospital; meet Bob Thurmon, Service Unit Director. Visit Cherry Creek, Red Scaffold and Bear Creek by government vehicle.
5:30 p.m.	Leave Eagle Butte. Fly over Pierre; Lower Brule, Crow Creek and Yankton Reservations to Sioux City, Iowa, for overnight.

Wednesday, May 25, 1977

8:00 a.m.	Visit Winnebago, Nebraska, Hospital, Omaha-Winnebago Reservation; meet Bruce Johnson, Service Unit Director; Larry Solomon, Service Unit Sanitarian; Terry Langan, Field Engineer

10:00 a.m.	Leave Winnebago, Nebraska, via Highway 12 to Ponca, Newcastle, Crofton, the Santee, Nebraska, clinic; then to Springfield, South Dakota by ferry.
1:00 p.m.	Visit Wagner Hospital, Yankton-Santee Reservation; meet Clifford Johnson, Service Unit Director; William Schunk, Environmental Health Technician; and Bob Young; Field Engineer. Visit Marty Mission to see school, housing, etc.; Greenwood rural water distribution system and solid waste disposal site.
4:30 p.m.	Leave Yankton-Santee for Winner, South Dakota for overnight.

Thursday, May 26, 1977

8:00 a.m.	Visit Rosebud Hospital to meet Floyd Lashly, District Sanitarian; Don Payne, Service Unit Sanitarian; Don Luxon, Environmental Health Technician; Webster Two Hawk, Service Unit Director; Gary McFarland, Field Engineer.
10:00 a.m.	Leave Rosebud to visit St. Francis, Ghost Hawk Park, Parmelee, Norris, Long Valley, Wanblee, Potato Creek, Kyle, Porcupine, Wounded Knee and Martin Field Office; meet Gordon Wilcox, Field Engineer.
3:00 p.m.	Arrive at Pine Ridge; visit Pine Ridge Hospital; meet Garth Hinderman, Service Unit Director; Casper Twiss, Environmental Health Technician; Melvin Clifford, Environmental Health Technician.
5:30 p.m.	Leave Pine Ridge for Rapid City for overnight.

Friday, May 27, 1977

8:00 a.m.	Visit Rapid City Hospital; meet Ray Becich, Service Unit Director; Bill Martin, Director, Black Hills Training Center.
12:00 Noon	End of conference