Improving the Health of Indian Teenagers—A Demonstration Program in Rural New Mexico

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Synopsis

The health status of Indian teenagers in the United States is below that of the general population. The usual barriers to the use of health care services that young people, including young Indians, encounter are compounded in rural areas by distance, isolation, and lack of appropriate services. To overcome these barriers in rural New Mexico, a public health demonstration project (a) established a single location where adolescents can receive multiple, integrated health care services free of charge; (b) set up the initial program of services at a rural school; (c) established links with existing agencies; and (d) incorporated community action toward creating change.

The project began as a joint effort of three communities, the University of New Mexico (UNM), and the Albuquerque Area Indian Health Service (IHS) of the Public Health Service; a secondary level public school soon became a participant. The project is being replicated in two other communities that have formed separate partnerships with UNM and the area IHS; also the New Mexico Health and Environment Department has joined the effort in one community. Preliminary data suggest that the services are being used by a majority of the target population, with the proportions of boys and girls about equal.

THE HEALTH STATUS of Indian adolescents and youth in the United States has been and continues to be, by most indicators, below that of the general population. (The terms "Indian" and "Indians" will be used in this paper to refer to American Indians and Alaska Natives.) Indians are three times more likely to die young than are other Americans. In 1982, 37 percent of the deaths among Indians occurred before age 45, compared with 12 percent of deaths in the same age group in the U.S. population. A higher birth rate among Indians only partially explains this situation (*1–4*).

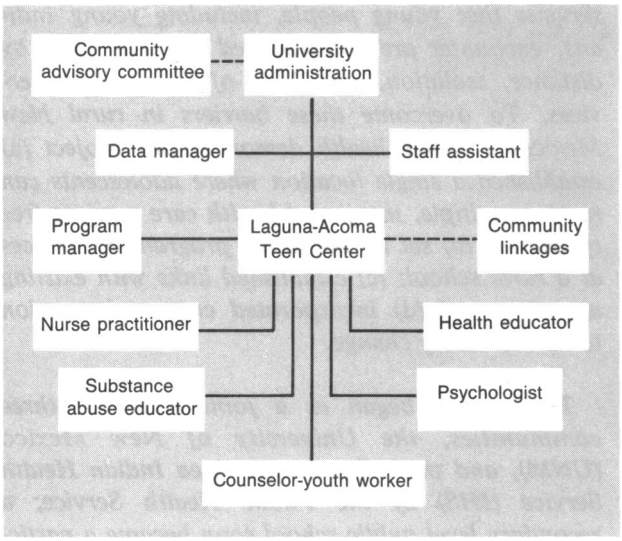
Approximately 850,000 of the 1.4 million self-identified Indians registered in the 1980 U.S. Census resided in an Indian Health Service (IHS) administered area (*5*). When the Indians living in California are excluded, because the State's data are inconsistent with those for the rest of the United States, the 3-year, 1980–82 mortality rate for Indian children ages 5–14 years residing in IHS areas was 43.1 per 100,000 population (228 deaths), compared with the 1981 rate of 29.4 per 100,000 population (ratio of 1.5 to 1.0) for the same-age U.S. population, all races. For youth ages 15–24, the 1980–82 rate for Indians was 285.5 per 100,000 population (1,522 deaths), compared with the 1981 U.S. rate of 107.1 (ratio of 2.7 to 1.0) (*1*).

The leading causes of death among Indians of all ages have changed somewhat over the past 30 years. Since 1951, the rate of mortality from infectious disease has improved significantly. The rate of mortality related to behavioral or social factors, such as accidents, homicides, and suicides, has increased, however (*1*).

Causes and Contributors to Mortality

Unintentional injuries and violence. Currently, unintentional injuries and violence are the leading causes of death among U.S. young people of all races. Among Indians, the death toll for these causes among the young is far worse than among other U.S. populations of similar ages. Unintentional injuries, homicides, and suicides combined cause 25 percent of deaths among Indians served by the Indian Health Service. The rate of years of productive life that the IHS service population

Organizational chart of the Acoma-Canoncito-Laguna Adolescent Health Program



loses each year from nondisease causes is greater than the rate for any other cause of death (*6*).

Alcohol abuse. Indians have the highest frequency of alcohol-related problems of any ethnic group (*7*). Alcohol abuse is implicated in Indian deaths and illnesses attributed to a variety of causes, such as accidents, homicide, suicide, diabetes, congenital anomalies, pneumonia, heart disease, and cancer. In addition, alcohol abuse has been implicated in 50 percent of the crimes committed by adults on Indian reservations. The prevalence of alcohol abuse can be inferred from the extremely high rate of Indian deaths from liver disease and cirrhosis in almost all IHS areas. In the period 1980–82, 801 Indian deaths were attributed to liver disease and cirrhosis, an age-adjusted rate of 48.1 per 100,000, exceeding the U.S., all-races rate by 4.2 times. The ratio to U.S., all-races was almost 10 to 1 in geographic area, and no IHS area had a rate below that of the U.S., all-races (*1*).

Mental health. Posited as causes of Indians' self-inflicted injury, such as suicide, are despair and low self-esteem resulting from a lack of social and economic opportunities, persistent poverty, tribal norms that operate against achievement and success and against interference in another's personal life, and pressures to acculturate that are associated with economic development.

Other behavioral issues related to mental health include teenage pregnancy and abuse and neglect of children. These issues seem to result from stress as well as causing and contributing to stress. For young people in these situations, additional services related to mental health seem warranted.

Indian Adolescents and Youth in New Mexico

Indians comprise a larger percentage of New Mexico's population than that of any other State, and they are the fastest growing of the State's four predominant ethnic groups—Anglo, Hispanic, Indian, and black. They are also a young population, with approximately 60 percent being under 25 years (*8*), and they experience the same barriers to using health care services as do their counterparts in other ethnic groups in other States; that is, the perception by teenagers that providers are unsympathetic and judgmental, the availability of services only in an adult or a child-oriented setting, a lack of financial resources, the fear of a lack of confidentiality, and an emphasis on curative medical concerns rather than on holistic health issues (*9,10*).

For young Indians in New Mexico, these barriers are compounded by poverty. In 1980, a total of 40.2 percent of New Mexico Indians had incomes below the Federal poverty level, compared with 27.5 percent of all U.S. Indians and 11.4 percent of the U.S. population (*11*). A history of cultural dichotomy, geographic isolation, and a lack of community resources specifically identified for adolescents are the common experience of young Indians. The public health demonstration project described in this paper was undertaken to overcome the barriers experienced by a segment of teenage Indians in rural New Mexico.

Inception of the Project

In 1982, a group of about 2 dozen concerned members of Acomo Pueblo and Laguna Pueblo and members of the Canoncito Band of Navajos formed the Teen Pregnancy Task Force to discuss the growing numbers of births to teenagers in their respective communities. They attempted to find out the communities' attitudes about teen pregnancy, to learn whether the other members of the communities considered teen pregnancy a problem, and to try to determine what could be done to educate and create awareness of the issue.

As the group began to expand its discussions on factors contributing to teen pregnancy, other people were involved and consulted, including parents, counselors, health workers, medical personnel, and tribal officials. The group, which met regularly, realized that teen pregnancy could not be separated

from adolescent health in general and that no one community agency or program targeted adolescents and their health. The group developed a proposal and submitted it to the Albuquerque Area IHS' Maternal and Child Health Branch.

Because the Teen Pregnancy Task Force was not incorporated to receive funding, IHS asked if the group would identify an agency or organization to carry out the program. The task force members agreed on the University of New Mexico and a three-way partnership was formed; IHS was the funding agency and the University of New Mexico was responsible for developing the project in response to input from the communities. The task force became the Acoma-Canoncito-Laguna (ACL) Teen Health Committee. Its members were interested in knowing more about the development of adolescents and the issues surrounding adolescents in their communities. The partnership allowed training for committee members, for gathering statistics, doing research in adolescent health programs, and drew upon community members' perceptions of attitudes, values, and ideas in designing the program.

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Components of the Model

The model for the current program of health-related services is a product of the interaction among the wishes of the community members, both adult and adolescent, and the expertise of the University of New Mexico consultants, modified by the partnership's experience in operating the program. The model has evolved and can evolve further in changed circumstances or other settings.

Model specifications include program accessibility; free, comprehensive services provided by a multidisciplinary staff and based on needs perceived by adult and teenage members of the community to be served; teenage participation in planning and carrying out the program; the community support and participation in appropriate aspects; and partnership in the funding, planning, and providing of services. Several of these components have already been discussed; in the remainder of the paper we will take up the others.

Selecting an accessible location. A school-based setting was selected by the planners for the following reasons:

1. A school is the only central facility that serves the dispersed residents of many rural areas.
2. A secondary school is the only community resource devoted exclusively to teenagers, a circumstance that may increase their sense of ownership in services at the facility.
3. Young people generally spend the majority of their time at the school.
4. In-migration and out-migration of this specific school population are minimal.
5. If the community has little in the way of transportation facilities, the school is a logical location for services to teenagers.
6. Students who wish to take part in school athletic activities can be given the mandatory physical examination through the comprehensive health care program. This is key to establishing a relationship between the students and the program.
7. Staff of the comprehensive health care program can assist students who need specific services if school counselors or nurses are not available.
8. If a school is underused by the community, it is available as the site where additional, nontraditional services can be given, and the school's fixed operating expenses remain relatively unchanged.
9. Clinics focusing on family planning have been successful in school-linked settings (*12–16*).

The school-based setting became a reality in the fall of 1983 when a demonstration site, the Laguna-Acoma Teen Center, was opened at the Laguna-Acoma Junior-Senior High School, a State-operated public school with 450 students located on Laguna Pueblo land, approximately 50 miles west of Albuquerque.

Free, health-related services. The model encompasses comprehensive, free, multidisciplinary services that should be available to adolescents. Unlike other school-based programs (*12–16*), the Laguna-Acoma Teen Center is not medically oriented; in-

stead it focuses on promoting physical and mental health. The following services are specified in the model:

- mental health counseling
- alcohol abuse evaluation, counseling, and education
- suicide prevention
- health education and promotion
- physical examinations
- pregnancy testing
- family planning
- programs to reduce school absenteeism and truancy
- sponsorship of traditional and innovative activities that promote health and prevent illness and injury (These activities include Students Against Drunk Driving (SADD), Teen Health Awareness Days, Adventure Clubs, improvisational Teen Life Theatre (*17*), intergenerational events, and a visit to a hospital emergency room that is part of an effort to train students as peer leaders in alcohol and substance abuse prevention (ASAP) (*18*).)

The planners selected these services, which later became the integrated Acoma-Canoncito-Laguna Adolescent Health Program, because of their knowledge of the problems of teenagers in the three communities. The selection was also based on the responses to surveys of the school's students (perceived needs and, subsequently, satisfaction with the program were surveyed) and the requests for services and advice of the Teen Advisory Group, which will be discussed subsequently. The pertinent scientific literature was also consulted; for example, the work of Klerman and coworkers. According to them, an examination of the morbidity and mortality among adolescents and youth reveals complex health care needs, and the complexity increases if there are psychological as well as physiological bases to health-related problems. The multidimensional nature of adolescents' problems, these authors point out, calls for a comprehensive and multidisciplinary approach (*10*).

The success of such an approach seems to be related particularly to the environment in which the services are provided because teenagers often will not use services that are available to the general public. Resnick and co-workers (*9*) reported the responses given by a sampling of teenagers who described characteristics of health-related services that would be appropriate for them. The young people described the barriers, touched on previously in this paper, that discourage adolescents from using health care services. They said that providers should be warm and compassionate, straightforward, and willing to communicate in an understandable manner, and that a clinic that serves teenagers should serve neither adults nor small children. They saw high costs as being barriers to receiving services, and they noted that confidentiality would preclude gossip and rumors as well as embarrassment, public humiliation, and a sense of shame. Most teenagers expressed discomfort at having to disclose personal information to family physicians and others who had known them or their families for a long time (*9*).

The environmental characteristics deemed appropriate by the sample of Resnick and coworkers were built into the ACL Adolescent Health Program so that teenagers can seek health related service in an alternate environment. The UNM Department of Pediatrics, which manages the teen center, endeavors to hire staff members whose personalities suit the students' needs. Confidentiality is a given, and students visit the center for many obvious reasons, such as to get a sports physical, use the telephone, or get a pamphlet as well as for less obvious reasons. Most providers of primary health service are UNM personnel, outsiders in regard to the pueblos and the Canoncito band, and they have no previous long-standing relationship with the students or their families or an awareness of their personal history. Because the staff members are not part of the school system, the students see them not as disciplinarians in the power system but as advocates. The organizational chart of the teen center appears on page 272.

Adolescents' involvement. A key component of the model is that the adolescents who will benefit directly from the program take part in choosing the services and in choosing and planning other aspects of the program. The rationale is that students who help to plan and operate the program are likely to look on it as their own, use it, and promote it.

How students participate in the initial planning and in the subsequent advisory group is important. In the planning stage, representatives of various subgroups as well as student leaders need an opportunity for input, regardless of their viewpoints. It is important to design the program to meet diverse needs. A group of teens will emerge with whom ongoing consultation will be possible.

Since it is often difficult for teens to go through a decision-making or problem-solving process on their own, guidance is essential. They should be

allowed to identify problems and possible solutions and understand that their input is valued and essential. As noted previously, the planners sought such assistance from the Laguna-Acoma School students through the use of surveys and a teen advisory group. The planners encouraged the formation of the Teen Advisory Group which used brainstorming to arrive at recommendations.

The brainstorming occurred initially during meetings sanctioned by the teenagers' teachers and integrated into regular classroom activities. Involving interested young people as volunteer members of the Teen Advisory Group encouraged participation in a group that was seeking to reach the underlying goal of self-empowerment; in addition, the process allowed for the development of a supportive atmosphere among peers. Both outcomes are steps toward good mental health, steps that were taken early in the transition from idea through model to the functioning program.

As consultants to the adult program directors, the Teen Advisory Group also guides and promotes the health program through a number of activities.

1. performing improvisational, health-related skits for families, peers, tribal leaders, and other community leaders,
2. preparing a peer-targeted, teen-health-oriented newsletter,
3. producing health-related, peer-oriented videotapes,
4. presenting workshops at other schools in New Mexico to promote the development of teen-conducted projects that address such topics as suicide, pregnancy, alcohol and drug abuse, and family violence,
5. serving as positive role models to students in the participants' own school and other schools,
6. expressing, through surveys, their reactions to the quality and effectiveness of services,
7. sponsoring and organizing "Teen Health Awareness Days," and
8. teaching fellow students and elementary school children in the classroom.

Community involvement as a mechanism of support and change. The model mandates the establishment of links between the comprehensive health care program and the broadest possible spectrum of groups in the community (social service and health agencies, tribal leadership, and community residents). Recent research indicates that the most promising approach to changing the health-related behavior of individual persons is to bring about pertinent cognitive, attitudinal, and behavioral changes throughout the community (*19–22*).

The ACL Adolescent Health Program was developed with the notion that the existing resources in the participating communities, such as the counseling centers for alcoholism, would be mutually supportive and enhancing, not competitive. With links to the program established, these agencies can help adolescents on site at the teen center, or adolescents can be referred to the community agencies when referral is advisable; thus, more teenagers may use these resources than previously.

Another benefit is that teenagers can choose to go to the staff of community agencies who may understand them better from a cultural perspective or to the UNM staff whose advantage may be the lack of intimate knowledge of them or their families. It is our experience that adolescents usually seek help initially from the persons who are considered "outside."

Community-wide changes are believed to be necessary if the health-related behavior of teenagers is to change. It is traditional and expected that the community's leaders and adults make and support the changes that affect everyone; these adults are role models for the young. The teenagers and youth of communities must change, too, because they are the role models for their peers and for the young children.

From the earliest stages, when the model and the program were being developed reciprocally, both adults and adolescents have directed much effort toward bringing about community-wide changes. At early planning meetings, the Teen Advisory Group and the ACL Teen Health Committee used brainstorming to identify perceived needs and health issues. Employing Friere's approach (*23,24*), the participants held separate and joint sessions at which they identified problems; set goals that, when accomplished, would solve the problems; identified the impediments to reaching the goals; identified ways of overcoming the impediments; and identified the medium that appropriate participants could use to present to the community-at-large the complete spectrum of problems, feelings, and options pertaining to each issue.

The activities of the Teen Advisory Group have provided leadership for changes in the health-related behavior of the original student participants, in other students, and in the leaders and other adults of the communities.

The issue of drinking and driving provided the original participants in the student group with an important challenge, for the issue had been identi-

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fied early in the project as a major concern. The students decided to develop and present a skit on this topic at a regularly scheduled meeting of the Parent-Teacher-Student Organization at the Laguna-Acoma school. After starting to work, the students asked their adult sponsor if they could present the skit in pantomime, because they felt too uncomfortable to verbalize the highly charged content. Encouraged to continue with their original approach, they worked through the skit, using an emotional and effective dialogue that stimulated more than an hour of interaction with the audience of families and students at the meeting. The young actors had grown in preparing their skit; their attitude and behavior had changed, and they were able to accomplish a sought-after, constructive end. This sensitive topic was discussed openly for perhaps the first time in this community.

Since that first use of drama as a medium for placing issues before the community, the Teen Advisory Group has presented numerous skits on such topics as "what would happen if boys got pregnant?" teen suicide, alcoholism, and family violence. Improvisational skits are now used by additional groups of students, in English and social studies classes and in church groups, and the original group continues to take in new members and to serve as a model for others who use this technique.

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A range of changes have occurred. Some examples follow:

1. increased awareness by school staff, other health care providers, tribal leaders, parents, and teenagers of the health-related needs of adolescents;
2. launching of efforts to promote health and prevent illness, injury, and death; efforts that use scarce resources and that are organized jointly by providers of services to teenagers (social services agencies, staffs of hospitals, clinics, and rehabilitation agencies, such as jails and the courts) and parents;
3. increase in intergenerational communication;
4. awareness by adults of the importance of positive role models;
5. support and involvement of community leaders and members of the ACL Teen Health Committee in health promotion activities for teenagers;
6. increased numbers of students taking part in fitness-fun runs and in more activities related to preventing illness and injury, including preventing drinking and driving;
7. increase in the use of health services by male and female students; and
8. changes in teenagers' attitudes about perceived control over one's own health and the health of one's family and friends.

The Model Replicated and Modified

Adolescents in Canoncito, 45 miles west-northwest of Albuquerque, receive services through the Canoncito Adolescent Health Program based in their own secondary school at the Canoncito Teen Center. The model has been replicated in all components in Canoncito. In Jemez Pueblo, 45 miles northwest of Albuquerque, the Teen Center is located in the pueblo's community center rather than in a school.

The complete model was also replicated in the fall of 1984 at Bernalillo High School, a hub school for five pueblos and three primarily Hispanic rural communities. Bernalillo, a town with a population of 3,200, is 20 miles north of Albuquerque. The 1,000 high school students are a mix of 50 percent Indian and 50 percent Anglo and Hispanic, while 95 percent of the 450 students at Laguna-Acoma Junior-Senior High School are Indian. Because of these differences, the original project was modified at Bernalillo High School. The project, a joint effort of the school, the community, UNM, and the IHS, added another partner. The State of New Mexico, through its Health

Visits to the Bernalillo Teen Center, by type of visit during 12 months, 1987–88

Type of visit	Number	Percent of total
Clinical		
Sports physicals:		
Preliminary examination	191	17.0
Examination	135	12.0
Followup	9	0.8
Injury	6	0.5
First aid	103	9.0
Family planning counseling	68	6.0
Birth control method dispensed (total)	100	9.0
Pills	42	3.7
Condom	29	2.5
Foam	29	2.5
Birth control method prescribed (total)	13	1.0
Pills	6	0.5
Condom	4	0.3
Foam	3	0.3
Pregnancy tests:		
Positive	17	1.5
Negative	25	2.0
Pregnancy counseling	48	4.0
Prenatal	11	1.0
Sexually transmitted diseases	12	1.0
Other	245	21.6
Total clinical visits	1,096	26.0
Counseling		
Voluntary counseling	302	26.6
Mandatory counseling	27	2.3
Alcohol (total)	208	18.0
Counseling	102	9.0
Drinkers check-up	10	0.9
Drinkers program	2	0.2
Alcoholic home	94	8.3
Drugs	55	4.8
Tobacco	9	0.8
Eating disorders	25	2.0
Overweight	17	1.5
Bulimia	2	0.2
Not specified	6	8.3
Suicide	11	1.0
At risk	7	0.6
Followup of attempt	4	0.4
Interpersonal	165	14.5
School problem(s)	94	8.3
Depression	47	0.4
Rap	20	1.7
Physical function	5	0.4
Sexuality	4	0.4
Abuse	0	0
Legal	4	0.4
Survivor	14	1.2
Teen parenting	16	1.4
Total counseling visits	1,250	29.0
Health education [1]		
Information:		
General	743	65.5
Drugs	64	05.6
Birth control	194	17.0
Alcohol	100	08.8
Interpersonal	651	57.4
Suicide	1	00.1
Career	26	02.3
Other	94	08.3
Peer training, counseling:		
Alcohol, substance abuse	35	3.0
Suicide counseling	2	0.2
SADD	0	0
Teen Life Theatre	12	1.0
Other	3	0.3
Total, health education	1,925	45.0
Total visits	4,271	...

[1] Does not include classroom presentations, only visits to the Teen Center.
NOTE: Percentages add to more than 100 because clients may be seen for more than one reason during a visit.

and Environment Department (HED), provides funds for specific categories of services—funds that match the IHS monies—to provide service for non-Indian students through the Bernalillo Teen Center. This financial arrangement, the State matching IHS funds, is unprecedented in New Mexico.

The new approach to funding resulted in a difference in operation between the health programs conducted at Laguna-Acoma-Canoncito and at Jemez and the Bernalillo program. All primary services at the other teen centers are provided by the Teen Center staff (IHS personnel and UNM personnel under contract to the IHS), but at Bernalillo, the mental health services available are provided by the IHS-UNM Teen Center staff and the physical health services by HED personnel, and by private practitioners and their personnel who are under contract to the State.

Both the IHS and the HED funds are channeled through and managed by the UNM Department of Pediatrics.

Evaluation of the Program

Preliminary data from the Laguna-Acoma school site show that 78 percent of the school population registered as users at the Teen Center; 53 percent of the registrants are boys and 47 percent are girls. At the Bernalillo site, 53 percent of the school population is registered; 57 percent are girls and 43 percent are boys. Encounters for a 1-year period at the Bernalillo Center, by type of visit, are reported in the table. These data suggest that services are accessible and are being used by the majority of the students. The male-to-female user ratio demonstrates that both male and female teenagers have been attracted.

At all four sites, the data are being used for

formative and summative evaluations. Data gathered in surveys and interviews of students and adults in the communities are being used in the formative evaluations; such information has been and continues to be collected in a data base for shaping the program.

A summative evaluation related to outcomes will be prepared in the future.

In the interim, the progress of the program has been recognized publicly by the American Academy of Pediatrics' Subcommittee on Indian Health (*25*) and by members of State and national legislative bodies (*26*). The program has also won several awards. The New Mexico Chapter of the College of Emergency Medicine Physicians presented an award to the ASAP members of the Laguna-Acoma Teen Center, the New Mexico Public Health Association gave an award to the School's Teen Advisory Group, and Readers Digest magazine awarded a scholarship of $1,000 a year for 4 years to the school's SADD group.

Conclusion

Evidence of the program's success is noticeable in changed behaviors and attitudes. Although measurable data relating directly to program efforts are not yet available, services have been established for all teens, including those considered high risk, and a place and people are on hand to help them with problems and decision making and to give them information. There is a meaningful opportunity for adolescents to be active players, preventing instead of contributing to growing totals of mortality and morbidity.

References

1. U.S. Congress, Office of Technology Assessment: Indian health care. U.S. Government Printing Office, Washington, DC, April 1986.
2. Stinson, F. C., and Plantz, M. C.: Comparative health service indicators for the IHS and U.S. populations. CSR Incorporated, Washington, DC, March 1986.
3. Indian Health Service Chart series book. Public Health Service, Rockville, MD, April 1985.
4. U.S. Department of Health and Human Services: Cardiovascular and cerebrovascular disease, pt. 1, vol. 4. *In* Report of the Secretary's Task Force on Black and Minority Health, January 1986, pp. 87-92, 186.
5. Rhoades, E. R., Reyes, L. L., and Buzzard, G. D.: The organization of health services for Indian people. Public Health Rep 102: 352-356, July-August 1987.
6. Rhoades, E. R., et al.: The Indian burden of illness and future health interventions. Public Health Rep 102: 361-368, July-August 1987.
7. Lewis, R.: Alcoholism and the Native Americans: a review of the literature. Special Population Issues. Alcohol and Health Monogr No. 4. DHHS Publication No. (ADM) 82-1193, Rockville, MD, 1982, p. 334.
8. New Mexico Health and Environment Department, Health Services Division: Vital statistics New Mexico 1982-83, Santa Fe, NM, October 1985.
9. Resnick, M., Blum, R., and Hedin, D.: The appropriateness of health services for adolescents. J Adol Health Care 1: 137-141 (1980).
10. Klerman, L. V., Kovar, M. G., and Brown, S. S.: Adolescents: health status and needed services. *In* better health for our children: a national strategy. Background papers, vol. 4. DHHS (PHS) Publication No. 79-55071. U.S. Government Printing Office, Washington, DC, 1981, pp. 285-319.
11. Poverty in New Mexico: a survey of poverty indicators, compiled by A. S. Fullerton. New Mexico Conference of Churches. Albuquerque, NM, 1986.
12. Hirsch, M. B., Zabin, L. S., Streett, R. F., and Hardy, J. B.: Users of reproductive health clinic services in a school pregnancy prevention program. Public Health Rep 102: 307-316, May-June 1987.
13. Siegel, L. P., and Krieble, T. A.: Evaluation of school-based, high school health services. J Sch Health 57: 323-325, October 1987.
14. Edwards, L. E., Steinman, M. E., and Hakanson, E. Y.: An experimental comprehensive high school clinic. Am J Public Health 67: 765-766, August 1977.
15. Edwards, L. E., et al.: Adolescent pregnancy prevention services in high school clinics. Fam Plann Perspect 12: 6-7, 11-14, January-February 1980.
16. Edwards, L. E., et al.: Adolescent contraceptive use: Experience in 1,762 teenagers. Am J Obstet Gynecol 137: 583-587, July 1, 1980.
17. Boria, M. C., Welch, E. J., and Vargas, A. M.: Family life theatre and youth health services. Am J Public Health 71: 150-154, February 1981.
18. Bernstein, E., and Woodall, W. G.: Changing perceptions of riskiness in drinking, drugs and driving: an emergency department based alcohol and substance abuse prevention program. Ann Emerg Med 16: 1350-1354, December 1987.
19. Green, J. W., and McAlister, A. L.: Macro-intervention to support health behavior: some theoretical perspectives and practical reflections. Health Ed Q 11: 322-339, fall 1984.
20. Durell, J., and Bukoski, W.: Preventing substance abuse: the state of the art. Public Health Rep 99: 23-31, January-February 1984.
21. Perry, C. L.: Community-wide health promotion and drug abuse prevention. J Sch Health 56: 359-363, November 1986.
22. Johnson, C. A.: Objectives of community programs to prevent drug abuse. J Sch Health 56: 364-368, November 1986.
23. Friere, P.: Education for critical consciousness. Continuum Press, New York City, 1983.
24. Wallack, L., and Wallerstein, N.: Health education and prevention: designing community initiatives. Int Q Community Health Educ 7: 319-342 (1986-87).
25. AAP subcommittee addresses health status of Indian children. Am Acad Ped News, May 1986.
26. Select Committee on Children, Youth and Families, U.S. House of Representatives: Native American children, youth, and families. Pt. 3. Hearing held in Albuquerque, NM, Jan. 10, 1986. U.S. Government Printing Office, Washington, DC, 61-1830.