

Training Injury Control Practitioners: The Indian Health Service Model

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Abstract

Many individuals practicing injury control have not received specific training for their work, in large part because of a scarcity of training opportunities. Consistent with its mission of "raising the health status of American Indian and Alaska Native people to the highest possible level," the Indian Health Service (IHS) created an innovative training program for federal and tribal employees. The model emphasizes training that is practical and can be applied immediately to community interventions. Many features of the IHS training model have broad applicability to other settings. These features include the use of experiential instruction, preceptors, and community case studies to train individuals from diverse cultural and educational backgrounds; educational strategies for employed adults; and courses that promote community empowerment.

The development of IHS training courses are guided by community input, epidemiological data, advances in knowledge, and program evaluations. Courses range from a half-day "minicourse" to a full-year fellowship program. The success of the training model is evident in programs instituted by IHS Injury Prevention Specialist Fellowship graduates, whose projects have ranged from drowning prevention in Alaska to fire safety in North Dakota. The IHS training model could be applied in a variety of other community-based settings, but it is most relevant to programs that train individuals from diverse backgrounds who are not full-time students and programs that make community needs an organizational priority.

The field of injury control is remarkably diverse. It ranges from prevention to rehabilitation, epidemiology to social marketing, and engineering to educational psychology.¹⁻³ Diversity is also apparent in the variety of settings and individuals devoted to injury control.⁴ There are nurses and community health workers providing child occupant education to parents, physicians, and nurse practitioners incorporating injury prevention counseling into clinical care; environmental health specialists installing smoke detectors; and housing directors choosing materials and architectural designs to reduce injuries at senior care facilities.

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Despite the complexity of the field and the enormous growth in knowledge regarding injury prevention over the past 20 years, many individuals practicing injury control have not received specific training for their work. As funding for targeted injury programs became increasingly available, persons working in other public health arenas (rodent control or lead poisoning, for example) were shifted to areas such as motor vehicle safety or fire prevention without additional training. A 1990 survey of injury program managers in state and territorial health departments found that 75% had not taken a single graduate course in injury epidemiology or prevention.⁵ Most people working at the community level—in hospital car seat loaner programs or home health agencies, for example—received no formal training in the principles and practice of injury control.

Part of the reason for the lack of training in injury control was a scarcity of available courses. The multidisciplinary nature of injury control, lack of curricular materials, and limited funding for research discouraged academic faculty from specializing in injury control.⁶ At the community level, injury control activities were often based on “common sense” educational approaches. These activities often focused exclusively on annual fire safety or automobile safety awareness months, consisting of the distribution of brochures and sponsorship of poster contests. These programs were not formally evaluated, a fact that did not dampen the enthusiasm of program organizers. The evolution of injury control from these exclusively educational efforts to comprehensive programs incorporating the “4 Es” (education, engineering, enforcement, and environmental changes) was often not reflected in practitioners’ work. Although injury control courses at schools of public health have become more widespread in the past decade,⁷ collaboration between faculty and practitioners in the field is often minimal or nonexistent. Advances in knowledge, technology, and behavioral science that can enhance program implementation therefore remain unknown to many of the people conducting injury control activities in their communities.

Consistent with its mission of “raising the health status of American Indian and Alaska Native people to the highest possible level,”⁸ the IHS intensified its injury control activities in the mid-1980s. It created innovative training opportunities for federal and tribal employees as part of a system of injury control in American Indian communities throughout the United States. The IHS Injury Prevention Program offers technical assistance to tribes, evaluates injury control projects, funds local interventions, advocates for tribal injury control at the federal and regional levels, and provides data for action at the community level. The training program provides a cadre of individuals to implement the program at regional and local levels. Between 1972 and 1995, the all-injury death rate for American Indians and Alaska Natives (AI/AN) declined 57%, from 244.4 per 100,000 population to 105.3 per 100,000.⁹ Although this decline involved many factors—such as safer vehicles, higher family incomes, improved emergency medical services, and hospital care—the IHS Injury Prevention Program clearly played a major role.

This article uses the IHS model to illustrate one approach to training injury prevention practitioners that may be successful in other community-based

settings. Several outstanding features of the IHS training model have broad applicability. These include approaches to training individuals from diverse cultural and educational backgrounds, individuals with varying degrees of interest and involvement in the field of injury control, and individuals employed full time. The model emphasizes training that is practical and immediately applicable in community settings. Before discussing the IHS model in greater detail, a description of the injury problem among American Indians is provided as background.

Injuries and American Indians

Injuries are among the most serious health problems American Indian people face. They are the leading cause of death among AI/AN between the ages of 1 and 44, accounting for nearly two-thirds of all deaths in this age group.¹⁰ Injuries claim the lives of approximately 1,500 AI/AN in IHS service areas annually. The overall injury mortality rate (unintentional and intentional) among AI/AN in 1995 was two times greater than the U.S. rate for all races (105.3 versus 52.1 deaths per 100,000, respectively).⁹ Among children and young adults, overall unintentional injuries, motor vehicle-related deaths, homicides, and suicides almost always occur at higher rates among American Indians (see Table 1).¹¹ In addition to being the leading cause of death among AI/AN, injuries also are the second leading cause of hospitalizations, after admissions for pregnancy and childbirth. In 1996, unintentional injuries alone resulted in 4,500 hospitalizations, with more than 21,000 inpatient days.¹¹ More than \$150 million is spent each year for hospitalization and outpatient care of AI/AN injury victims.

The overall rates of injury are misleading because considerable variation exists among tribes. For example, firearm-related death rates vary 6-fold, fire- and burn-related death rates 7-fold, and drownings 22-fold among IHS service areas.¹² This is not surprising given the more than 500 federally recognized tribes in the United States. Each tribe is unique in its culture, history, language, and sociopolitical circumstances.

High rates of injury in tribal communities and variations across tribes pose challenges for the IHS injury training program. Also, reducing the burden of injuries requires training a broad spectrum of individuals—

both those with major programmatic responsibilities (injury control specialists) and those with limited involvement in injury control activities (injury control practitioners). The training model has addressed these challenges in several innovative ways.

Designing the IHS Injury Control Training Program

The goal of the IHS Injury Prevention Program is to promote community-based interventions to reduce serious injuries in American Indian communities. Consequently, the IHS injury training program differs in major ways from a traditional academic model. Several of these differences are summarized in Table 2. For example, the primary mission of the IHS model is to train individuals who will put their new knowledge and skills to immediate use in their communities. Academic programs have other goals, such as advancing basic knowledge, training future researchers, and producing leading educators. Unlike students in most academic programs at a college or university, all of the participants in IHS training courses have salaried positions with tribes or the IHS. Whereas students in academic programs have similar educational backgrounds, students in IHS training courses may include both individuals with master's degrees and those with only a high school diploma. Similarly, while virtually all university faculty have advanced academic degrees, many of the instructors in IHS courses lack advanced degrees but have skills and experience in community-based interventions. These differences mean that, compared to academic courses, IHS courses heavily emphasize practical (over theoretical), experiential learning in addition to didactic instruction and content adapted to local needs.

Four factors guide the development and evolution of IHS training courses:

Table 1

Ratio of Injury Mortality Rates among American Indian/Alaska Native Children and Youth Compared with Rates for All U.S. Races*			
	Ages 1 to 4	Ages 5 to 14	Ages 15 to 24
All Unintentional Injuries	2.9	2.2	2.8
Motor Vehicle–Related Injuries	3.7	2.0	2.8
Homicide	2.7	1.6	1.0
Suicide	—	2.8	2.7

* For example, the figure of 2.0 in the motor vehicle–related injury column for 5- to 14-year-olds means that American Indian/Alaska Native children in that age group have a motor vehicle death rate twice the national average for children their age. Data are from 1992 to 1994 for American Indians/Alaska Natives; 1993 for all U.S. races.

Source: *Trends in Indian Health, 1997*. Rockville, MD: Indian Health Service, 1998.

community input, epidemiologic data, advances in knowledge, and program evaluation.

Community Input

Community input is vital to all aspects of the training program, especially for assuring topical relevance, cultural appropriateness, and direct benefits to tribes. Recommendations for course topics are solicited from community members by injury control specialists or come as direct requests for specific training. The latter often occurs in the aftermath of a tragedy, such as multiple deaths from a house fire or a local cluster of teenage suicides. Consistent tribal input also occurs because both AI/AN and non-AI/AN are course participants and course instructors.

Epidemiologic Data

Tribe-specific epidemiologic data is sought for all training courses. This data is essential to identify priorities for action, risk factors for injury, and high-risk groups such as children and the elderly in house fires or teenagers in motor vehicle crashes. Tribe-specific data allows instructors to make the course content directly relevant to students from diverse communities.

Advances in Knowledge

Advances in scientific knowledge, along with developments in engineering, and new implementation strategies are incorporated into the technical content of the courses. For example, approaches to intimate partner violence have become more comprehensive and well studied.¹³⁻¹⁵ Accordingly, the IHS training model increasingly emphasizes

intentional injuries in its courses. Similarly, “social marketing” has recently been recognized as a powerful tool to enhance community interventions.¹⁶⁻¹⁸ Social marketing techniques such as focus groups are now routinely taught in IHS courses. The Alaska drowning prevention program described below illustrates how these techniques are utilized in community injury control.

Program Evaluation

In addition to traditional course evaluations by participants, the IHS Injury Prevention Program has vigorously promoted external evaluations of its courses and operations. A 1985 evaluation by Dr. Leon Robertson recommended an injury surveillance program to target specific hazards.¹⁹ The surveillance system became the foundation for a core course in data collection and analysis. An unpublished 1990 evaluation of the IHS Injury Prevention Specialist Fellowship program led to a new course on analyzing, presenting, and publishing results of research projects. The Injury Prevention Research Center of the University of North Carolina is currently performing an external evaluation of the IHS Injury Prevention Program at three levels within the system (headquarters, area, and tribal). The evaluation includes site visits, document reviews, interviews, and a survey of key informants. A likely recommendation based on preliminary feedback is to include more training in organizational development and management, such as record keeping, obtaining external funding, and promoting community involvement.

Table 2

Indian Health Service Training Model vs. Traditional Academic Model		
	Indian Health Service Model	Traditional Academic Model
Students	Individuals working in public health in target communities	Individuals enrolled in full-time degree programs
Faculty	Agency staff, local injury practitioners, community coalition members, and academic faculty	All have advanced academic degrees
Primary Mission	Train participants to immediately apply effective interventions in local communities to reduce injuries	Advance knowledge, train leaders in research and education
Primary Determinant of Course Content	Community needs and input	Promotion of scholarly endeavors

The next section describes the training courses in greater depth. Details on the content, duration, participants, and methods of instruction provide insights into how the IHS training program addresses the needs of individuals from diverse educational, professional, and cultural backgrounds.

IHS Training Courses

The IHS Injury Prevention Program includes a broad array of courses for IHS and tribal staff. These courses range from a half-day “minicourse” to a full-year fellowship program. The range of course offerings accommodates individuals with varying levels of interest and commitment to injury control (see Table 3). For example, three-hour minicourses are designed primarily for tribal program managers in the general areas of health, social services, and education. These professionals need to be aware of the importance of injuries in American Indian communities and the availability of effective interventions, but they may not have time to attend even a daylong course on injury control.

In contrast, three one-week courses constitute the core training experience for community injury control (CIC) practitioners. CIC practitioners have a major interest in the field, because of either organizational responsibilities (for example, tribal health agency directors, council members, or health board members) or direct involvement in specific injury prevention activities. The latter includes nurses working in hospital car seat loaner programs, community injury prevention

coalition members, IHS environmental health personnel, public health nurses, community outreach workers, and tribal injury prevention staff. The core courses are held several times a year in different regions of the country to minimize travel expenses and tailor the presentations to local needs and interests. Travel costs are a major barrier to attending training programs, given the long distances between and within tribal nations, modest salaries of community workers, and limited budgets of tribal and IHS programs. Workshop expenses also are restrained by having IHS and tribal injury prevention specialists serve as the course instructors. The core courses, described in Box 1, involve lectures, group activities, field trips, case studies, and computer labs.

A third type of training offered through the IHS program involves topic-specific workshops that provide intensive training to build skills (grant writing, social marketing), or that address unique interests of targeted audiences that work in injury prevention and other areas (medical providers, community health workers) (see Table 4). By focusing on knowledge and skills directly relevant to individuals who may have only a peripheral interest in injury control, the topic-specific workshops also are an opportunity to raise awareness about the importance of injuries in American Indian communities. Future collaborations between injury control practitioners and physicians, for example, are often greatly enhanced after delivery of a medical provider workshop.

Table 3

Indian Health Service Training Courses		
Title	Participants	Course Length
Minicourse	Tribal program managers	3 hours
Core Courses, Levels 1 to 3	IHS and tribal staff conducting injury control activities	1 week per level
Topic-Specific Courses	Community members; medical providers; injury personnel; other targeted audiences	1 to 5 days
Fellowship	IHS and tribal staff specializing in injury control	12 months
Colloquium	Fellowship graduates	2 days

The final component of the IHS training program—the year-long Injury Prevention Specialist Fellowship—is a unique, nationally recognized program providing advanced training to tribal and IHS staff working in the field of injury control. Participants have included environmental health specialists, physicians, nurses, social workers, and health educators. Graduates of the fellowship program often assume positions as injury control specialists. Specialists work full time for the IHS or tribes in the field of injury prevention. They are responsible for conducting all of the components of a comprehensive injury program at a regional level. Many of the fellowship graduates also become course instructors for the IHS training program and have their research published in peer-reviewed journals.²⁰⁻⁴⁰

Fellows are released from their regular job duties to attend four training courses conducted by university faculty members and community-based injury control practitioners. These courses cover topics such as designing an injury control research project, injury epidemiology and statistics, a field course in injury control, and written and oral communication of injury control research. In conjunction with this coursework, each fellow is required to conduct an injury research project. Results from these projects are presented at an annual IHS Injury Symposium attended by IHS staff, tribal leaders, and guests from interested federal agencies, such as the U.S. Fire Administration (USFA), Centers for Disease Control and Prevention (CDC), National Highway Traffic Safety Administration

(NHTSA), and U.S. Consumer Product Safety Commission (CPSC).

Graduates of the fellowship program are eligible to attend continuing education courses that are held every two years to keep fellowship graduates up to date on important issues and to provide additional skills development. Recent colloquia have focused on violence prevention, prevention of impaired driving, and the impact of managed care on injury control activities.

The value and effectiveness of the IHS training program is most apparent in the community-based interventions implemented by its students. The following examples demonstrate how training in program design, implementation, and evaluation translates into specific activities with measurable reductions in injury. Each example highlights different facets of the training program, such as the emphasis on comprehensive approaches to injury control, the use of social marketing principles, and the importance of collaboration.

Examples of Community-Based Interventions

The three projects described below had a major impact on diverse injuries in very different American Indian communities. The projects were all organized by individuals who had completed the IHS Injury Prevention Specialist Fellowship training program. These programs grew directly out of the information, concepts, and principles provided by the IHS training sessions.

Box 1

Core Courses to Train Injury Control Practitioners in the Indian Health Service

- **Introduction to Injury Prevention:** Using a public health perspective, this survey course emphasizes the magnitude of injuries, examples of successful interventions, and the importance of a “complete injury prevention program”—one that covers six components found in the most successful community-based injury control efforts: local injury data, a local coalition, a marketing strategy, community advocacy, evaluation, and an action plan that includes environmental, regulatory, and educational elements.
- **Injury Prevention Data Analysis and Interpretation:** This course concentrates on building skills in the use of data in a complete injury prevention program. Topics include planning for data collection, designing data collection forms, managing injury data using computer software, investigating severe injuries as part of a surveillance program, and analyzing data to develop interventions. Participants are encouraged to bring data from their own communities for discussion during the course.
- **Translating Information into Action:** Students in this course identify a local injury problem for which they would like to develop an intervention plan. During the course, they gather substantial background information regarding this injury problem and develop an intervention strategy. Lectures and group exercises focus on developing skills for community action. Topics include social marketing and health communication, cost data for advocacy, public speaking, project management, conducting focus groups, and coalition building. Following this course, participants have initiated programs in child passenger safety, fire protection, childhood poisoning prevention, and motor vehicle crash reduction. In fact, many of the resulting projects are incorporated into the curriculum as real-life community action success stories.

Alaska Drownings

The effort to reduce drowning deaths in Alaska relied heavily on principles of social marketing. Social marketing is a discipline that was slow to be embraced by the IHS training model, but now receives extensive emphasis. It involves utilizing the marketing tools of the business world—focus groups, opinion surveys, mass media—to promote socially valuable causes, including injury prevention.^{16–18}

Drowning is a leading cause of injury deaths among Alaska Natives. Utilizing data from death certificates, coroner reports, and police records, a fellowship graduate with the Yukon-Kuskokwim Health Corporation (YKHC) discovered that 75% of the drownings occurred in rivers while boating. Few of the victims were wearing personal flotation devices (PFDs).

Based on these findings, the YKHC initiated the Alaska Floatcoat Program in 1990. A survey of Alaska residents found that they

would be much more likely to wear floatcoats (PFDs that double as regular overcoats for warmth) than other types of PFDs, such as life vests, which were considered bulky and unattractive. Subsequently, a coalition of local leaders, health professionals, and merchants was formed to promote the use of floatcoats. The group launched a public awareness campaign to publicize the importance of drownings as a cause of death among residents and the value of floatcoats in saving lives. The coats were then advertised via newspapers, radio, and posters in local villages, and made widely available for purchase in a variety of sizes, colors, and styles. Floatcoat sales increased steadily. In the first two years of the program, 16 individuals from the YKHC region reported that the floatcoats had saved their lives.

Many other communities in Alaska have replicated the program. An evaluation conducted along a 400-mile stretch of the Yukon River in 1998 found that 90 out of 100 boat riders were wearing floatcoats. Not a single

Table 4

Examples of Topic-Specific Courses	
Injury Control Training for Medical Providers	Injury Grant-Writing Workshop for Tribal Coalition Members
<p>A. Scope of the injury problem among Native Americans</p> <p>B. Principles of injury control:</p> <ol style="list-style-type: none"> 1. Strategies: <ul style="list-style-type: none"> • Persuade: <ul style="list-style-type: none"> Education of individuals Mass media Incentives • Require: <ul style="list-style-type: none"> Laws, regulations Enforcement Litigation • Automatically protect: <ul style="list-style-type: none"> Engineering Environmental change 2. Haddon Model: <ul style="list-style-type: none"> • 3 phases: pre-event, event, post-event • 3 factors: human, vehicles/equipment, environment <p>C. Importance of medical personnel in injury prevention:</p> <ol style="list-style-type: none"> 1. Identify hazards 2. Improve charting 3. Provide patient education and motivation 4. Screen, treat, and refer patients for substance abuse, domestic violence, and depression 5. Assist in program evaluation 6. Serve as community advocates: <ul style="list-style-type: none"> • Spokespersons for campaigns • Expert testimony at tribal council meetings • Influence decision makers • Educational presentations • Assist in proposal writing • Participate in local injury coalitions 7. Conduct research 	<p>A. Locating sources of funding</p> <p>B. Elements of a grant proposal:</p> <ol style="list-style-type: none"> 1. Background 2. Project objectives 3. Methods 4. Organizational capabilities 5. Budgets and justifications 6. Timelines 7. Appendices <p>C. Ethics, tribal support, and approvals</p> <p>D. Program evaluation</p> <ol style="list-style-type: none"> 1. Process evaluation 2. Impacts and outcomes 3. Costs <p>E. Proposal management</p> <p>F. Using Internet resources</p> <ol style="list-style-type: none"> 1. Is your idea unique? 2. What works and does not work 3. Definitions, methods, and comparison information 4. Useful contacts <p>G. Disseminating results</p> <ol style="list-style-type: none"> 1. Meetings 2. Publications 3. Internet <p>H. Sustainability</p>

drowning related to boating activities had occurred along this stretch of river in the previous two years.⁴¹ In 1998, the popularity and success of the floatcoat program contributed to the state of Alaska enacting a law requiring children under 14 years of age to wear PFDs while in boats.

Seat Belt Use in the Navajo Nation

The comprehensive approach to injury control advanced by the IHS training program combines a public health model with a

profound awareness of the importance of cultural factors. The Navajo Nation's motor vehicle safety program is a superb demonstration of how these two sometimes contradictory priorities can be realized. This program also illustrates how training in the importance of collaboration, and the use of objective measures for evaluation, contributes to the effectiveness of community-based programs.^{35,42}

In 1988, the motor vehicle death rate among the Navajo was five times greater

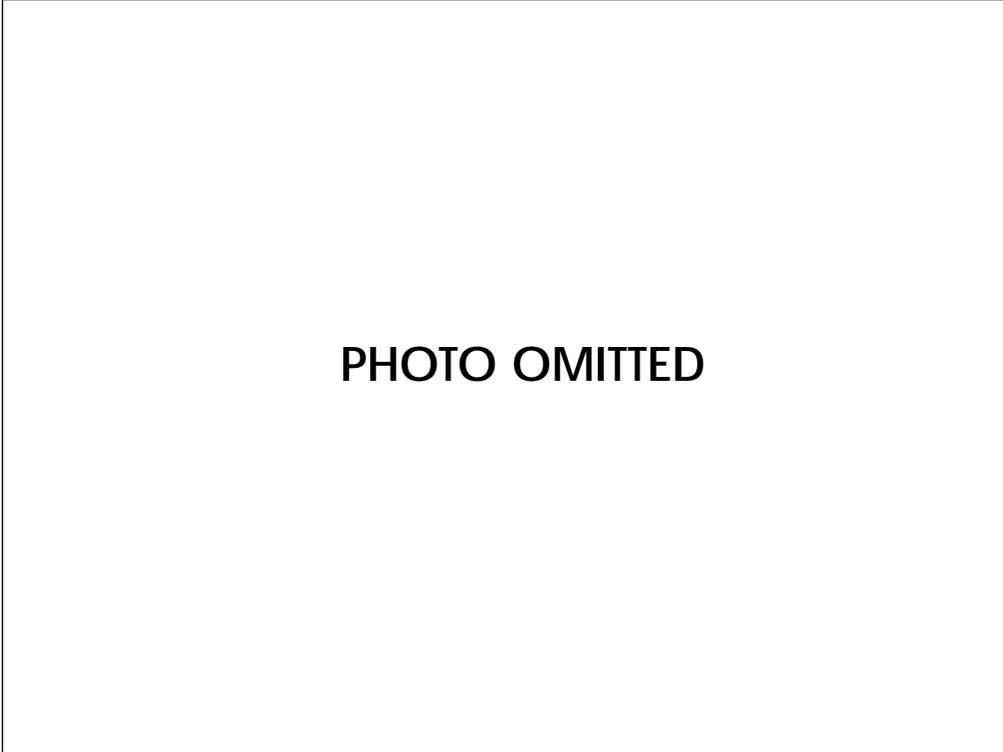


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than the national average. Observational studies showed that only 14% of Navajo adults and 7% of Navajo children traveled with proper safety restraints. That year, the Navajo Nation changed its motor vehicle safety regulations to require use of safety belts and child occupant restraints for all vehicle occupants.

In conjunction with the regulatory change, the Navajo Office of Highway Safety collaborated with the Navajo Area IHS Injury Prevention Program to organize a comprehensive seat belt campaign. The first phase of the campaign was designed to increase public awareness of the law and the benefits of riding buckled up. School presentations, incentives such as T-shirts and “Saved-by-the-belt” awards, billboards linking child car seats to traditional Navajo cradle boards, and radio messages in the Navajo language were among the approaches used. After a two-year phase-in period, the Navajo Nation’s police department began to rigorously enforce the restraint laws. The tribal police established roadblocks, issued citations for nonuse of seat belts and child safety seats, and informed drivers of the importance of using proper restraints.

Seat belt use by adults rose dramatically, reaching 80% in 1998. Hospitalizations for

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motor vehicle–related injuries declined 45%. The program was much less successful in promoting restraint use for children, however. Only about 30% of children under five years of age were restrained in 1998. The Navajo Area injury prevention specialist has therefore begun collaborating with the National SAFE KIDS Campaign (NSKC), the Arizona and New Mexico Traffic Safety Bureaus and Governors’ Highway Safety Programs, and the New Mexico Department of Health to implement specific child passenger safety interventions, such as car seat clinics and more extensive loaner programs. Monthly car seat observations are being conducted to evaluate the impact of this new initiative.

Fire Safety for American Indian Homes

The efforts of one fellowship graduate in the arena of fire safety applied many facets of the IHS training model—field research, advocacy at the local and national levels, and the dissemination of research and program findings—to increase the use of functioning smoke detectors in residential dwellings

Fire and burn incidents are the leading cause of injury deaths for American Indian and Alaska Native children ages one to four. Some American Indian communities in the Midwest have fire-related death rates six times

greater than the national average.⁴³ Among the contributing factors are cold climates, rurality, high rates of cigarette smoking, wood heating, more families with young children, alcohol abuse, and substandard housing.

Although smoke detectors can reduce the risk of residential fire death by 50% or more (see the article by Mallonee in this journal issue), many American Indian homes do not have smoke detectors or have inoperable ones. To learn more about why so many homes have alarms that do not work, an IHS injury specialist conducted a survey of American Indian homes in North Dakota. Nearly 50% of the smoke detectors were inoperable at the time of the home visit. In 86% of the cases, the detectors had been intentionally disabled by the residents because of “nuisance alarms,” that is, alarms that sounded in the

As a next step to further reducing residential fire-related deaths in American Indian communities, the same injury specialist is currently collaborating with Head Start, an early childhood education program on the reservation, to promote the “Sleep Safe” project. The goal of “Sleep Safe” is to reduce the rate of fire and burn injuries among American Indian children ages zero to five by insuring that every American Indian child goes to sleep in a home protected with a smoke detector. Elements of “Sleep Safe” include the distribution of smoke detectors, a fire safety curriculum for Head Start programs, and advocacy to promote passage of tribal laws requiring fire safety codes in American Indian homes and Head Start centers. The program will be evaluated for cost, impact, and acceptability by both teachers and parents. It is likely to become a model for Head Start nationally.

The goal of “Sleep Safe” is to reduce the rate of fire and burn injuries among American Indian children ages zero to five by insuring that every American Indian child goes to sleep in a home protected with a smoke detector.

absence of a house fire. More than three-quarters of the nuisance alarms were related to cooking (especially frying), and 18% occurred due to steam from bathrooms. All the nuisance alarms occurred in ionization-type detectors.²⁴

The study’s recommendations—that photoelectric-type or combination detectors offer distinct advantages over ionization detectors in many homes and that ionization detectors should be installed at least 25 feet from stoves and 10 feet from bathroom doors—received national attention from the USFA, the CPSC, and others. The recommendations also have been incorporated into fire safety initiatives in many communities. The willingness of American Indian renters and home owners to allow a survey of their homes in order to promote fire safety knowledge, and the trust and rapport established by the IHS injury specialist, was essential to this study’s success.

Applicability of the IHS Training Model

The IHS training model offers training resources and educational strategies that are applicable to other settings. For example, IHS course materials have been incorporated into a tribal community college program in Bismarck, North Dakota. The United Tribes Technical College Injury Prevention Program (UTTC-IP) is the first undergraduate college to offer an associate of applied science degree in injury prevention. The program’s goal is to graduate American Indian students who will initiate culturally appropriate injury interventions in tribal schools and communities. The IHS core courses also have attracted international interest, particularly for studying injuries among indigenous peoples.⁴⁴ The training approaches developed by the IHS model can be generalized to other populations as well.

Training Resources

To support continuing education in injury control and enhance local training efforts, the IHS has utilized a variety of media. Publications providing injury data, reports of previous community interventions, and descriptions of injury control resources are especially valuable. For example, the IHS Office of Program Statistics compiles two annual references, *Trends in Indian Health* and *Regional Differences in Indian Health*,

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containing mortality data. Short videotapes (10 to 30 minutes) depicting successful community interventions offer visual reinforcement of didactic material. They also are superb motivational tools, since community people are shown implementing projects in their local environments. Slide-tape programs with teacher manuals allow decentralization of training courses. For optimal use, they require “train-the-trainer” workshops and knowledgeable instructors to answer questions and elaborate on the standardized presentation.

Computer-based resources also have enormous potential for training. Training programs can establish Web sites that, like the IHS Injury Prevention Program Web site, include links to other injury-related Internet sites, e-mail addresses for injury control experts, online publications and data, and program materials.⁴⁵ Training programs targeting specific populations, such as minority groups or children, might consider instituting an online database similar to the Native Health Research Database (NHRD). A collaboration between IHS and the Health Sciences Center Library at the University of New Mexico, the NHRD contains abstracts of articles, agency reports, and evaluation studies, including more than 120 articles on injuries.⁴⁶ Such a database is invaluable for literature reviews, funding proposals, and the design of research and evaluation projects. Internet-based training courses are an extension of the concept of decentralized training.⁴⁷ They offer a venue for delivering training to even the most remote communities in the country. The scarcity of personal computers and lack of computer literacy in many rural and low-income communities are current obstacles to utilization of this approach.

Educational Strategies

Offering training to individuals working in the field, rather than to full-time students in degree programs, requires innovative approaches. Many public health staff find it difficult to get permission to travel out of state, take time from regular duties, and receive reimbursement for training costs.⁵ The IHS model addresses these challenges by providing courses of variable length and scheduling them close to work sites. Similarly, the NHTSA uses the “variable course length” approach in its Standardized Child Passenger

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Safety Training Program by offering 4-, 8-, and 40-hour courses.⁴⁸ The one-year fellowship model combines academic course work, an individual research project, and field experiences to train a cadre of individuals with advanced knowledge and skills in a targeted area. This model could be adopted by other agencies with categorical initiatives, such as diabetes, violence prevention, or environmental health. By enrolling persons already working in the field and allowing them to continue their jobs while receiving advanced training, the fellowship program provides an efficient way to immediately translate education into community interventions.

Student internships are another approach applicable to federal, state, and local agencies and organizations. Students in medicine, public health, nursing, and health education are eligible for paid summer positions with the IHS Injury Prevention Program. They assist in conducting epidemiologic studies, developing training materials, and even

preparing presentations to congressional committees. In addition to their educational value, the internships are an effective recruitment tool for students who might otherwise never consider a career in injury control. Internships also provide human resources to enhance the work of the agencies that sponsor them, but obtaining funding for the internships can be a major barrier.⁴⁹

Teachers and administrators in the IHS training program have learned a great deal about making courses relevant to individuals with diverse educational, cultural, and professional backgrounds. Including instructors, preceptors, and guest speakers from the community promotes inclusiveness.⁵⁰ Emphasizing experiential instruction (for example, field visits and group exercises), focusing on practical applications rather than theoretical issues, providing individualized attention via preceptors, and incorporating community case studies as primary teaching tools are other successful approaches used in the IHS training model.

Community empowerment—building the capacity of tribes to conduct their own comprehensive injury control programs—has become a primary focus for the IHS. In addition to increased funding for tribal injury control staff and interventions, and the formation of a national tribal steering committee, specific training opportunities are offered to promote this goal. Examples are train-the-trainers workshops, which enable community members to become local instructors in injury control; proposal-writing workshops that provide skills in obtaining external funding for program support; and a unique field course that

maximizes community participation. The field course for the fellowship program takes place on a reservation where the tribe has requested assistance with a specific injury problem. Tribal staff members participate alongside the fellowship students, attending lectures, developing and piloting instruments, and preparing a final report. This partnership model, in which students and community members work as colleagues in the field, is an innovative training concept deserving wider application.

Conclusion

The IHS training model is designed to provide immediately applicable knowledge and skills for community-based interventions. The model is most relevant to programs that train individuals from diverse backgrounds who are not full-time students and who make community needs an organizational priority. Specific strategies—such as the fellowship program, core courses, and student internships—can be utilized individually or as a comprehensive training approach. Whatever the combination of training resources used, however, the principles of the IHS model—profound respect for the importance of cultural factors and community input, the value of epidemiologic data as a foundation for action, and a willingness to accommodate students with varying levels of interest and commitment—are consistently applied. Applying this model to other settings requires recognizing the dynamic nature of community-focused training. Courses and other training opportunities should then evolve over time according to changing community needs, formal evaluations, and advances in the field of injury control.

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