The IHS Injury Prevention Fellowship Program: A Long-Term Evaluation

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Introduction

Intentional and unintentional injuries are a leading cause of suffering and death among American Indians and Alaska Natives (AI/AN). They are the number one cause of mortality from ages one to 44 years.[1] Among children ages 1 - 17 years, high injury rates account for virtually the entire disparity in childhood mortality rates between AI/AN children and US White children.[2] Injuries are also the leading cause of years of potential life lost (YPLL) before age 65. Among AI/AN nationally, 40% of YPPL before age 65 is due to injuries, compared to 9% for heart disease, 8% for cancer, and 3% for diabetes.[3]

Since 1987, a year-long, advanced training opportunity – the IHS Injury Prevention Fellowship Program (IPFP) – has been an important component of the Indian Health Service's efforts to reduce the burden of injuries and build tribal capacity for injury prevention. The fellowship is part of a broader set of offerings that include a series of three core courses in injury prevention, as well as targeted trainings in child passenger safety, grant writing, program evaluation, and intentional injuries.[4,5]

Individuals employed by both the IHS and tribes are eligible for participation in the Injury Prevention (IP) Fellowship. The cornerstones of the fellowship are primary prevention, evidence-based strategies, and practical skills. Examples of practical injury prevention skills are the use of GPS devices, digital cameras, and computer software; oral and written presentation skills; and proposal-writing. Case studies, data analyses, published literature, and field experiences are drawn from AI/AN communities. Presenters, too, are chosen for their familiarity with injury issues in AI/AN communities, as well as for their professional expertise.

An obvious goal of the fellowship is to enhance the knowledge and skills needed by individuals to fulfill their roles as injury prevention practitioners. To this end, the fellowship has several components:

- Design and completion of a year-long project;
- Classroom work and a field course (four sessions);
- Between-course assignments;
- Computer labs;
- Mentoring by community and academic experts;
- A symposium at which fellows present the results of their projects.

Table 1. Comparison of the two IHS Injury Prevention Fellowship options

	Epidemiology Option	Program Development Option
Focus	Evaluation, Surveillance, Data collection	Community interventions
Education Prerequisites	Bachelors degree required	Bachelors degree not required
Training Prerequisites	Introduction to IP + Intermediate IP (or equivalent)	Introduction to IP or equivalent.
Field Experience Prerequisites	3 years in public health, 2 years in injury prevention	1 year in injury prevention
Travel/Time Away from Home	6 weeks + presentation (2 days)	4 weeks + presentation (2 days)
Curriculum	• 4.5 days: IP Project development • 3 weeks: Epidemiology • 4.5 days: Field course • 4 days: Presentations and publication (Albuquerque) • 2 days: Symposium	• 4.5 days: Injury prevention program planning • 4.5 days: Project implementation and evaluation • 4.5 days: Field course • 4.5 days: Marketing, advocacy, presentation skills (Albuquerque) • 2 days: Symmposium

Beginning with the Class of 1993, there have been two fellowship options, one with an epidemiology focus and the other emphasizing community interventions. Table 1 summarizes the two fellowship tracks.

Based on two criteria, there is ample evidence that the fellowship is successful in building tribal capacity in the short-term. The first criterion is the development of new injury prevention resources. For example, fellowship field courses had produced home inspection forms to assess fire safety in AI/AN communities, a checklist for determining the comprehensiveness of child passenger safety efforts, a model for teaching GPS skills using a geo-caching exercise, and a template for conducting focus groups on injury prevention issues. The second criterion is the assumption by individuals of new professional roles in injury prevention based on their fellowship experience and training. A tribal police lieutenant, for example, became a national expert on police policies and procedures for responding to domestic violence calls on tribal lands. The director of a state health department's injury prevention program developed unique insights into tribal/state collaboration as a result of her fellowship project.

We wanted to determine if the fellowship program was effective in the long term, which we defined as three or more years after completion of training. The criteria we chose to assess long-term effectiveness were that fellowship graduates would:

1. Continue to work in the field of injury prevention;
2. Report that their year-long projects had a lasting impact on reducing the burden of injuries;
3. Assume prominent roles in IP as trainers, decision-makers, and policy makers;
4. Publish the results of their projects.

Methods

From the fellowship class of 1987 through the current class of 2006, there have been 227 participants. We sent a survey via e-mail to 115 fellows who graduated at least three years previously (Classes of 1987 through 2003). Non-responders were contacted by phone and e-mail to request their participation.

We also conducted a literature review (using Medline searches and through personal communications) to identify published articles whose authors included fellowship graduates.

As this study was conducted in an "established educational setting" (the IHS Injury Prevention Fellowship Program) and constituted research on the effectiveness of an instructional technique, it was specifically exempted from Human Studies Institutional Review Board approvals.[6]

Results

Of the 115 former fellows contacted, 86 completed the survey, a response rate of 75%. The 86 responses represent 41% of the 209 fellows who graduated between 1987 and 2004. The average numbers of years since graduation was nine.

Among the 86 respondents, 48% said that injury prevention constituted at least 25% of their current workload; 71% said that at least 5% of their current workload is devoted to injury prevention. The great majority (88%) of the respondents were employed in one of three settings: the Indian Health Service (59%), tribes or Alaska Native Corporations (14%), or other Federal agencies, such as the CDC, HRSA, FDA, NIOSH, or the US Coast Guard (15%).

Many of the fellowship graduates are in important administrative and policy-making positions. They include two Area Chiefs and a Division Director in the IHS Environmental Health Services Branch; a Senior Public Health Analyst at the Office of Performance Review (HRSA); Acting Director, Division of Healthcare Preparedness (HRSA); Director of Environmental Health Support, IHS/Alaska Native Tribal Health Consortium; Chief, Injury Prevention Service at the Oklahoma Department of Health; Department Chair for Injury Prevention and Associate Academic Dean at the United Tribes Technical College; Branch Chief for Safety, Environmental Health, and Food Service, US Coast Guard; and the IHS Injury Prevention Program Manager. Of the 27 Injury Prevention Specialists listed on the IHS web site, 23 (85%) are fellowship graduates. Also, nine members or alternate members of the National Injury Prevention Tribal Steering Committee had completed the fellowship program.

The Fellowship made a lasting impact on all of the respondents. One hundred percent of the respondents (86/86) answered "Yes" to the question, "Was the fellowship year worth the time and effort you devoted to it?" They mentioned a new awareness of injuries as a public health issue; long-term networking with fellowship classmates; acquisition of knowledge and skills to design, implement, and evaluate a project; and changes in how they assess their daily work ("Is what I am doing proven to be effective? Am I targeting the right people with my message?").

More than four out of five respondents (83%) reported that the fellowship influenced their professional careers. Several fellowship graduates stated that the training prompted them to attend graduate school and obtain a Masters Degree in Public Health. Others attributed to the Fellowship their decision to remain active in the field of injury prevention, "even when I could have left for a promotion."

A key question was whether the fellows' year-long projects had any impact on reducing injuries, or had merely sat on a shelf. Two-thirds of the respondents (66%) said their project had led to some positive results; another 12% were unsure; and 20% said their projects had not led to any changes. A number of projects led to national injury prevention initiatives, such as the Native Peoples' Brain Injury Council, a degree program in injury prevention at a tribal college, and two tribal Head Start/IHS cooperative programs (Sleep Safe and Ride Safe). Information from fellowship projects was also used to obtain funding for roadway improvements, law enforcement projects and equipment, and tribal injury prevention programs.

Publishing articles about data and intervention projects in AI/AN communities builds tribal capacity for injury prevention in several ways. First, it disseminates information about what programs are successful (or not), and why. Second, it provides tools (such as data collection instruments and literature reviews) and methods (observational studies, focus groups, home visits) that can be replicated in other settings. We identified 18 articles based directly on fellowship projects.[7-24] There were an additional 29 publications for which fellowship graduates were authors or co-authors.[25-53] A compendium of abstracts of unpublished fellowship projects from 1987 - 1998 can be accessed at www.injuryfellowship.org.

Conclusion and Recommendations

The IHS Injury Prevention Fellowship Program is unique in that it specifically addresses the injury prevention needs of tribal communities; provides diversity in learning methods and training locations; offers in-depth training for, and interaction among, individuals employed by both the IHS and tribes; and emphasizes practical, hands-on experiences that online courses cannot duplicate. Based on the career paths of the fellowship graduates, the impact of their year-long projects, and their numerous publications, the fellowship has been effective in the long-term.

Among the recommendations from graduates for how the fellowship might be improved were the following: more extensive dissemination of project results throughout IHS, tribes, state health departments, and other agencies; more emphasis on the prevention of intentional injuries, such as domestic violence and suicide; and recruitment of fellows from other tribal and IHS disciplines, such as health promotion/disease prevention, behavioral health, and nursing.

A philosophical cornerstone of the fellowship program has been that the educational *process* is as important as the *content*. Sustaining the individual's commitment to the field of injury prevention requires that the training program 1) promote a sense of competence by incorporating concepts of adult-centered learning (e.g., sharing experiences, individualized goals, small group work); providing community and academic mentors to help guide projects to successful conclusions; conducting a field course requiring specific deliverables in a short time frame; and emphasizing acquisition of practical skills (use of GPS devices, focus groups, digital cameras, and the Internet; oral and written presentation skills, preparation of funding proposals); and 2) enhance networks of support by having role models as presenters; conducting team-building exercises; creating space for social activities; and holding courses in a variety of geographic locations and settings (tribal agencies, universities, IHS facilities); and 3) instill hope by identifying funding opportunities for injury prevention interventions and by sharing success stories from Alaska Native and American Indian communities throughout the United States.

Information about applying for the IHS Injury Prevention Fellowship is available at *http://www.ihs.gov/MedicalPrograms/InjuryPrevention*. Applications for the class of 2007 are due December 15. For further information about the fellowship, please contact:

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