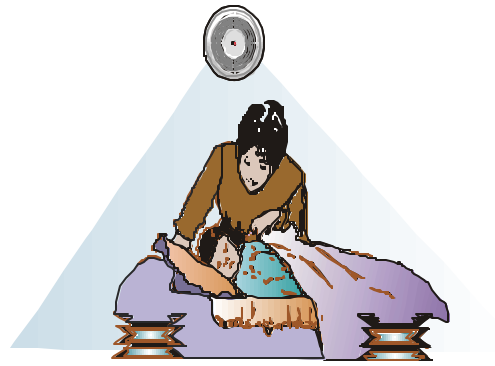


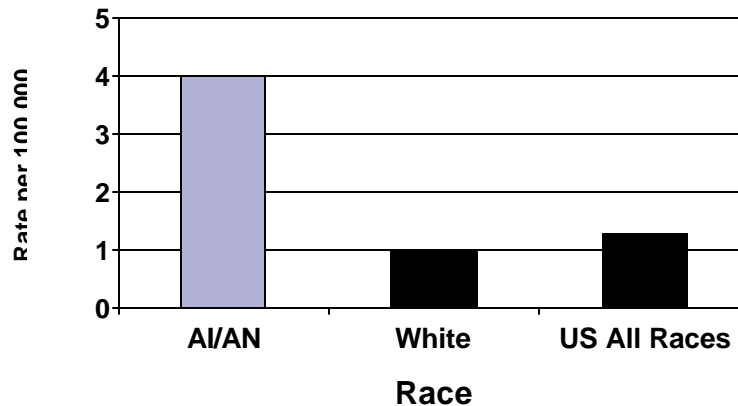
*“Every Indian child goes to sleep in a home protected by a smoke alarm...”*



## The Sleep Safe Fire Safety Program

Fire mortality rates are exceedingly high in American Indian and Alaska Native (NA/AI) communities. Between 1985 and 1998, the age-adjusted residential fire/flame mortality rate for the AI/AN Indian Health Service (IHS) service population was 3 times greater than the US All-Races rate (4.0 versus 1.3 deaths per 100,000, respectively; see Figure 1).<sup>1</sup> Residential fire/flame mortality rates are very high in several IHS Areas, especially the Alaska Area and those Areas serving Midwestern and Northern Plains tribes. For example, the age-adjusted Aberdeen Area IHS residential fire/flame mortality rate of 10.5 per 100,000 is over eight times the US All-Races rate (1985-98).<sup>1</sup>

Figure 1. Age-adjusted residential fire/burn mortality rate\* by race, 1985-1998



Source: IHS mortality tapes, Centers for Disease Control and Prevention's National Center for Health Statistics; IHS Service Population.

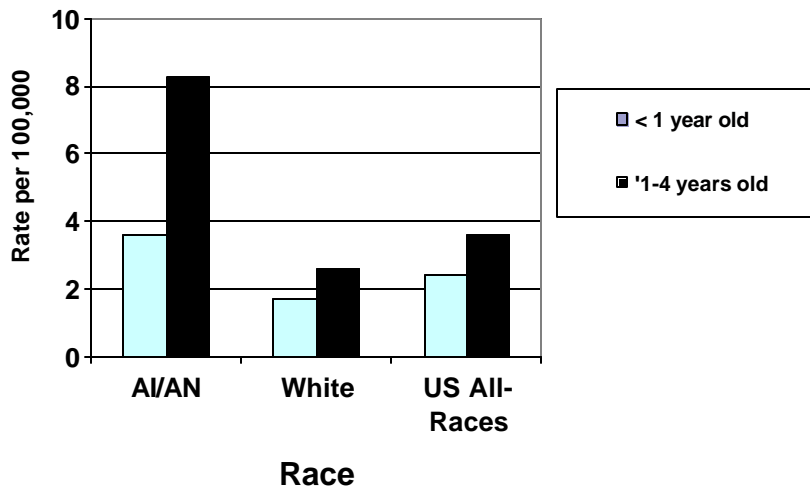
\*International Classification of Diseases, 9th Revision (ICD9) external cause of injury (E-codes) E890-899.

Fire is the **leading cause** of childhood injury death in the home, and children under five years old are at the highest risk.<sup>2,3</sup> American Indian and Alaska Native children ages one to four years are at over twice the risk of residential fire/flame death as the US All-Races population (Figure 2)<sup>1</sup>. Because AI/AN

children are at such high risk of residential fire death, IHS and the US Fire Administration joined forces in 1999 to create the “Sleep Safe” fire safety program.

The goal of the Sleep Safe program is to reduce the rate of fire and burn injuries among AI/AN children ages 0-5 enrolled in Tribal Head Start Centers participating in the Sleep Safe Program. The Sleep Safe program targets children and families enrolled in American Indian Programs Branch (AIPB) Head Start programs. Head Start is committed to providing comprehensive developmental (health) services for low-income preschool children ages three to five. Currently, 141 Head Start programs serve 19,811 AI/AN children in the United States. Head Start is ideal for the Sleep Safe program because it emphasizes parent and community involvement. This community outreach provides an opportunity for providing hands-on fire safety education, home surveys, development of community linkages, and intervention.

Figure 2. Residential fire mortality rates for children ages 0-4, 1985-1998



Source: IHS mortality tapes, Centers for Disease Control and Prevention's National Center for Health Statistics; IHS Service Population.

\*International Classification of Diseases, 9th Revision (ICD9) external cause of injury (E-codes) E890-899.

Successful injury prevention programs utilize a multiplicity of approaches, including educational efforts, environmental modification, and passage and enforcement of laws.<sup>4</sup> The Sleep Safe program incorporates all of these elements into its two components: 1) a curriculum consisting of nine guides; and 2) provision and installation of smoke alarms in homes needing them. A description of these two components follows.

**Curriculum Module:**



**1. Coordinator's Guide**

This Guide provides information to assist Sleep Safe Program Coordinators in meeting the goals and objectives of the program. A brief explanation of the Coordinator's roles and responsibilities is provided, as well as suggestions for implementing the main aspects of the Sleep Safe Program.

**2. Environmental Health Officer Guide**

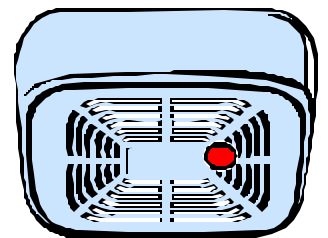
This Guide provides information to assist local Environmental Health Officers (EHOs) and/or Injury Prevention Coordinators in supporting Sleep Safe Program Coordinators in meeting the goals and objectives of the program. A brief explanation of the

Environmental Health Officer's roles and responsibilities is provided, as well as suggestions for monitoring and supporting Sleep Safe Program activities.



**3. Smoke Alarm Distribution Guide**

This Guide is intended for Sleep Safe Program Coordinators to use when installing smoke alarms provided by the Sleep Safe Program. Using this Guide, Sleep Safe Program Coordinators will learn practical issues to consider when planning for the installation of smoke alarms in homes of families with Head Start children. In addition, Coordinators will learn about important follow-up activities they can conduct after smoke alarms have been installed in homes.





#### 4. Teacher's Guide

This Guide provides Head Start Center teachers with suggestions for Sleep Safe program activities to be implemented during a school year. These activities can be implemented in the classroom, during October Fire Safety Week, and/or through the distribution of Head Start Center Newsletters.

#### 5. Childcare Provider's Guide

This Guide is designed to be used by Sleep Safe Coordinators, Head Start Teachers, or other trained individuals to make presentations about fire safety to childcare providers (e.g., parents and grandparents). These presentations can be made in small group settings or in the homes of Head Start Center families. Some of the information included in this Guide can also be provided or conveyed to larger audiences through newsletter articles, posters, and/or public service announcements.



#### 6. Children's Guide

This Guide includes the U.S. Fire Administration's *Sesame Street Fire Safety Station*. It contains stories, songs, creative activities, demonstrations, role-playing, and other activities that Head Start educators can use in the classroom to teach children basic fire safety. In addition to serving as teaching tools, these materials are designed to be photocopied and distributed to parents and childcare providers.

## 7. Tribal Partnerships Guide

This Guide is designed to give Sleep Safe Program Coordinators ideas and tools for expanding fire safety activities to the larger community. The activities included in this Guide were designed to be implemented as a partnership between Sleep Safe Coordinators, IHS/Tribal Environmental Health Officers, and other interested community members.



## 8. Home Fire Safety Survey Guide

This Guide is designed to assist sites in using a Home Fire Safety Survey to collect information about fire safety practices among Head Start Center families. A Home Fire Safety Survey is included in this Guide, in addition to a Home Fire Safety Survey Data Collection Training Reference (which provides step-by-step instructions for completing the Survey). A *Microsoft Access* data entry program on a CD Rom is also provided with this Guide.



## 9. Resource Guide

This Guide provides Sleep Safe Program Coordinators resources and internet sites for general fire safety, children's fire safety, and elder fire safety programs and activities.

### ***Smoke Alarms:***

Photoelectric smoke alarms with 10 year lithium batteries are installed in every home in which the residents have completed the Parent/Childcare Provider's Guide, and which are shown by a home visit to need an alarm. Smoke alarms are installed by Head Start staff or a collaborating program, such as the local fire department.

By providing early warning of a fire, a smoke alarm can reduce the risk of residential fire death by 40% or more.<sup>5</sup> However, disconnection of the alarm due to nuisance alarms, primarily from cooking vapors, is a significant factor resulting in inoperability of smoke alarms in AI/AN homes.<sup>6</sup> Photoelectric smoke alarms were chosen for the Sleep Safe program because they are less likely to produce false alarms due to nuisances such as cooking grease and bathroom steam

vapors.<sup>6,7,8</sup> Ionization smoke alarms were not chosen because: 1) frequent nuisance alarms will be annoying and will eventually prompt many owners to disconnect the unit; and 2) owners often find it easier to remove the battery than to repeatedly push the silencer button when smoke exposure is sustained, as it is during cooking.<sup>9</sup>

Sleep Safe is more than just another teaching curriculum. The Parent/Childcare Provider's and Tribal Partnerships Guides were designed to stimulate the development of linkages with other community groups, and mobilization of the community in fire safety using Head Start as the catalyst. The ultimate goal is the development of comprehensive community fire safety programs.

The curriculum was also designed to give a starting point for developing the linkages between community members and tribal and IHS programs needed for a comprehensive community fire safety program. For example, even if the community recognizes that there is a fire injury problem, and the IHS or tribal injury prevention practitioner has technical expertise and can provide leadership, we're often not sure how to join forces and where to begin to address the problem. The Sleep Safe module provides a means to do this by outlining the basic steps needed to develop an effective fire safety program, and by guiding in the delineation of roles and responsibilities for collaborating individuals and programs.

Recognizing that many AI/AN communities have different needs, challenges, and potential risk factors compared to other communities (Table 1)<sup>6,10,11,12,13,14</sup>, the Sleep Safe curricula were developed using experience from working with AI/AN communities, input from AI/AN Head Start programs, and advice from community members. The initial planning for this program involved IHS Environmental Health and IHS Head Start representatives meeting to develop an outline for the curricula. The curricula were drafted using a format found in other educational materials used by Head Start, so that familiarity would allow easy application of the Sleep Safe curricula. Activities were developed to meet the following **Head Start Performance Standards** 1304.22(d)(1)&(2) for Injury Prevention and 1304.40(a)(1), and 1304.41(a)(1)(2) for collaborative partnership-building:

1. Ensure that staff and volunteers can demonstrate safety practices;
2. Foster safety awareness among children and childcare providers by incorporating it into child and childcare provider activities;
3. Engage in a collaborative partnership-building with parents to establish mutual trust and identify family goals, strengths, and necessary services and
4. Take an active role in community planning to encourage strong other supports; communication, cooperation, and the sharing of information among agencies and their community partners and to improve the delivery of community services to children and families. Documentation must be maintained to reflect the level of effort undertaken to establish community partnerships; and

5. Take affirmative steps to establish ongoing collaborative relationships with community organizations to promote the access of children and families to community services that are responsive to their needs and to ensure that Early Head Start and Head Start respond to community needs.

Table 1. Potential risk factors for fire mortality in some American Indian/Alaska Native communities

<b>Risk Factors</b>
<ul style="list-style-type: none"><li>• Lack of smoke alarms</li><li>• Inoperable smoke alarms</li><li>• Alcohol impairment, especially while smoking</li><li>• Smoking, especially in bed</li><li>• Low socioeconomic status</li><li>• Lower educational level</li><li>• Living in mobile homes</li><li>• Substandard housing</li><li>• Use of wood stoves</li><li>• Rural location; long response time</li><li>• Cold climate</li><li>• Single parent households</li><li>• Overcrowded households with many children</li><li>• Arson: disaffected youth; unemployment</li></ul>

After the curricula were drafted, three focus groups (3-6 participants each) were held with Arizona Indian Head Start teachers and community members, who had reviewed and applied the materials. The focus group sessions were guided by a facilitator's manual developed from material in *Designing and Implementing Fire Safety Programs in American Indian Communities: A Resource Manual*,<sup>15</sup> developed through an IHS-US Fire Administration collaborative project. Input from the focus groups allowed tailoring of the module to improve clarity, readability, ease of application, content, and activities. The program is evaluated by site visits and tools developed through an IHS contract with the Injury Prevention Center at the University of North Carolina (UNC).

All Head Start centers serving AI/AN children are eligible to apply for the Sleep Safe program. Requests for proposals are direct-mailed to all eligible Head Start centers and consortiums in the spring of each year. Since its inception in fall of 1999, forty-eight grantees throughout the United States were selected for the

National program. These Head Starts have distributed 6,212 smoke alarms to families enrolled in their programs. An additional 915 smoke alarms were distributed by five Head Starts funded by Bemidji Area IHS funds. Each year, grantees send their designated Sleep Safe coordinator to a two-day training workshop taught by IHS Injury Prevention Specialists and experienced Sleep Safe Coordinators. Participants receive training about the administration of the program, and application of each of the module's guides through presentations, group activities, role-playing exercises, and demonstrations. Each coordinator also receives a copy of *Designing and Implementing Fire Safety Programs in American Indian Communities: A Resource Manual*.<sup>15</sup> After completing the workshop, the coordinators return to implement the curricula and smoke alarm installation. Project sites are encouraged to kick off their programs in the first week of October during Fire Safety Week.

The IHS Injury Prevention Program recognizes that reducing many types of injuries depends on the active involvement of communities. It is devoted to the empowerment of communities to address local injury problems through local solutions. The Sleep Safe program can be used as a model, and as a tool for local groups to use as a starting point for addressing fire injury problems in their community. Although the module is targeted to Head Start programs, the Tribal Partnerships Guide is intended to stimulate community mobilization in fire safety. Although the Sleep Safe program is targeted to fire injury, the basic framework and approach presented can be applied to address other injury problems in a community.

For more information, contact Harold Cully, Sleep Safe Program Coordinator, at (405) 951-3852.

## References

1. *American Indian/Alaska Native mortality tapes, 1990-1996*, Centers for Disease Control and Prevention, National Center for Health Statistics, Atlanta, GA; 1996
2. Baker SP, O'Neill B, Ginsburg MJ, Li G. *The injury fact book*. 2<sup>nd</sup> ed. New York, NY: Oxford University Press; 1992
3. National Fire Data Center. *Fire in the United States, 1986 – 1995*. Emmitsburg, MD: U.S. Fire Administration; 1998
4. Christoffel T, Gallagher SS. *Injury prevention and public health. Practical knowledge, skills, and strategies*. Gaithersburg, MD: Aspen Publishers, Inc.; 1999
5. Hall JR. The U.S. Experience with smoke detectors: who has them? How well do they work? When don't they work? *NFPA Journal*. Sep/Oct 1994;88(5):36-39,41-46



6. Kuklinski DM, Berger LM, Weaver JR. Smoke detector nuisance alarms: a field study in a Native American community. *NFPA Journal*. Sep/Oct 1996;90(5):65-72
7. Fazzini TM. *Smoke detectors: a field study in rural Alaska*. Paper presented at the Injury Prevention Fellowship Symposium, Alexandria, VA; May 1998
8. Smith CL. *Smoke detector operability survey report of findings*. Bethesda, MD: U.S. Consumer Product Safety Commission; May 10, 1993
9. *Smoke detector testing in rural Alaska*. Juneau, AK: Alaska Council on Science and Technology, Fire Safety Task Force; May 1982
10. Ballard JE, Koepsell TD, Rivara FP, Van Belle G. Descriptive epidemiology of unintentional residential fire injuries in King County Washington, 1984 and 1985. *Public Health Rep*. 1992;107:402-408
11. Mobley C, Sugarman JR, Dean C, Giles L. Prevalence of risk factors of residential fire and burn injuries in an American Indian community. *Public Health Rep*. 1994;109:702-705
12. Parker DJ, Sklar DP, Tandberg D, Hauswald M, Zumwalt RE. Fire fatalities among New Mexico children. *Ann Emerg Med*. 1993;22(3):517-522
13. Runyan CW, Bangdiwala SI, Linzer MA, Sacks JJ, Butts J. Risk factors for fatal residential fires. *N Engl J Med*. 1992;327(12):859-863
14. Scholer SJ, Hickson GB, Mitchel EF, Ray WA. Predictors of mortality from fires in young children. *Pediatrics* 1998;101(5):E12
15. *Designing and implementing fire prevention strategies in Native American communities: a resource manual*. Rockville, MD: Indian Health Service; July 1998