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Partnering Strategies for Childhood Agricultural Safety and Health

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Abstract

The National Institute for Occupational Safety and Health (NIOSH) has been the lead federal agency of the national Childhood Agricultural Injury Prevention Initiative (CAIPI) since the program's inception in 1996 and in this role, collaborated with numerous partners in childhood agricultural injury prevention activities. This collaboration has likely helped achieve the current reduction in childhood agricultural injury. The paper looks at existing groups with past and current childhood agricultural injury prevention activities for partnering strategies that could contribute to reducing the morbidity and mortality of childhood agricultural injuries. Based upon the review, suggestions are made for future partnering strategies to continue progress in this area.

Keywords

Agriculture; child; injuries

The problem of children being injured while living, working, or visiting agricultural work environments (primarily farms) has been recognized for many decades. Recent data suggest more than 100 youths under the age of 20 die on farms each year and over 16,000 farm-related injuries (injury being defined as any condition occurring on the farm operation resulting in at least 4 hours of restricted activity) occur to the same group.^{1–3} The annual cost of nonfatal farm youth injuries has been estimated at \$1 billion.⁴ Prior to 1996, many individuals and groups advocated for the prevention of agricultural injuries of youth, and media attention was generated on the issue, but a national coordinated effort to address the problem did not exist. There were a number of efforts that culminated in a national initiative to prevent childhood agricultural injuries that was funded in October 1996 by the US Congress to begin implementation of a national Childhood Agricultural Injury Prevention Initiative (CAIPI).

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Governmental Activities

NIOSH

The CAIPI, which is led by the National Institute for Occupational Safety and Health (NIOSH), has three emphasis areas: extramural research, injury surveillance, and outreach through the establishment of a National Children's Center for Agricultural Injury Prevention. NIOSH undertook the surveillance component, providing ongoing childhood agricultural injury data collection, which had not previously been available. These data are used by other organizations to inform and direct their resources and programs for childhood agricultural injury prevention. From 1998 to 2009, these surveillance data have shown a 56% decline in youth farm injury rates.⁵ The extramural research effort consists of 14 years of support for 35 different childhood agricultural injury prevention research projects. Initially, the majority of grants funded through the Childhood Agricultural Safety and Health Research grants were targeted toward educational interventions for youth, but more recently funded grants have focused more toward intervention evaluation research. The final component, a national center for childhood agricultural injury prevention, was created through the National Children's Center for Rural and Agricultural Health and Safety (NCCRAHS), and was dually funded by NIOSH and the Maternal Child Health Bureau (MCHB) for a period of time, with NIOSH funding agriculture youth injury prevention activities whereas MCHB provided funds for rural injury prevention issues. This joint recognition of the scope, magnitude, and overlap of the problem of rural and agricultural populations resulted in synergistic efforts to reduce youth agricultural and rural injuries.

The National Children's Center for Rural and Agricultural Health and Safety (NCCRAHS) strives to enhance the health and safety of all children exposed to hazards associated with agricultural work and rural environments by conducting research, education, intervention, prevention, translation, and outreach activities. Translating research findings into practice and moving childhood agricultural safety knowledge into practice through sustained partnerships is a major focus of the Center. NCCRAHS has a track record of synergistic efforts addressing national priorities while involving a range of stakeholders. Since 1997, NCCRAHS has been a leader in (a) building new partnerships, (b) conducting research with practical implications, (c) generating consensus on complex issues, and (d) producing resources deemed useful to multiple audiences. Guidelines for working youth, hired youth, safe play areas, agritourism, and portraying safe agricultural practices in the media were developed by the NCCRAHS. These resources, developed with partners, are utilized in the United States and some are used globally.

As part of its funded activities by NIOSH, NCCRAHS established the Childhood Agricultural Safety Network (CASN) in 2000. CASN is composed of representatives of national organizations dedicated to keeping children safe on the farm. These organizations represent the agricultural community, child injury prevention, and minority-serving associations whose goals are to strengthen partnerships and collaborations of the member organizations. This coalition of individuals representing many organizations across the United States and Canada meets in-person annually and via teleconference quarterly. CASN members serve as Knowledge Translation Advisors; various Center projects call on CASN

members to provide general guidance or participate as venues for translation of findings into appropriate avenues for outreach and community-level interventions. Together, they produce and distribute an annual CASN safety calendar, used to promote agricultural youth safety. In addition, CASN has undertaken national public awareness campaigns to reduce deaths and injuries caused by tractors and all-terrain vehicles (ATVs).

As the lead federal agency for the CAIPI, NIOSH invited a select number of federal agencies/organizations to form a Federal Interagency Working Group on Preventing Childhood Agricultural Injuries. Each member agency has a mission-related emphasis or interest in preventing childhood agricultural injuries. The working group meets periodically with the stated purpose to serve as a mechanism for sharing information and facilitating collaborative efforts in the area of childhood agricultural injury prevention among federal agencies. By convening representatives of federal agencies with knowledge and interest in childhood agricultural safety and health, the working group provides focus and emphasis to the childhood agricultural injury problem. This interaction also allows these agencies to identify and support opportunities for collaboration that might not be otherwise discovered.

Although not part of the CAIPI, NIOSH separately funds seven Centers for Agricultural Disease and Injury Research, Education, and Prevention. Each center has an outreach effort, with several addressing childhood agricultural injury prevention. Five of the Agricultural Research Centers convened Journalists Workshops, a NCCRAHS project, to increase regional media coverage on the hazards to children who live, work, or visit agricultural environments. In addition, the New York Center for Agricultural Medicine and Health (NYCAMH) is involved with CASN as an active participant and the other Agricultural Research Centers become involved with CASN when an issue addresses an area of importance or priority to them.

USDA

The United States Department of Agriculture (USDA) Cooperative Extension has a long history of activity in farm safety.⁶ Cooperative Extension educators at the state, regional, and county levels are also active supporters of youth farm safety educational programs in many states. Extension educators often collaborate with Progressive Agriculture Safety Day and Farm Safety 4 Just Kids (FS4JK) programs in communities where these organizations have a strong presence, or organize their own safety day events and programs in areas where these organizations are not active.

The USDA, National Institute of Food and Agriculture (NIFA) (formerly the Cooperative State Research, Education, and Extension Service [CSREES]), has provided competitive funding through the Youth Farm Safety Education and Certification Program (YFSEC) since 2001. The initial priority was to address the shortage of current and high-quality safety training materials to supplement and enhance the training component of the Hazardous Occupations Order for Agriculture (HOOA) regulations, which allow for an exemption of 14- and 15-year-olds to operate tractors and machinery with proper training on other than their parents farm. YFSEC priorities in recent years have been on underserved youth populations and minority youth projects.

Nongovernmental Programs

Not all efforts at preventing childhood agricultural injuries are being done by the federal government. When federal/state agencies efforts are augmented by private sector groups, the impact of programs is maximized. Local groups understand what is acceptable to local communities and can develop programs that address those individual needs in collaboration with local stakeholders.

The American Farm Bureau (FB) has been active in farm injury prevention programs for many decades.⁶ Efforts by state-based FB organizations have been made to support and promote childhood agricultural injury prevention programs. Many state FBs have specific school-directed programs (e.g., the Arkansas Farm Bureau has two staff who spend about 70% of their time conducting school safety programs). Many state and county Farm Bureaus also partner with Progressive Agriculture Safety Day programs and Farm Safety 4 Just Kids (FS4JK) programs. Mississippi, Oklahoma, and Arkansas Farm Bureaus hold summer safety camps for youth. When working with other groups (Progressive Ag, FS4JK), there are shared expenses, speakers, and/or the FB may provide the meeting location and refreshments. Collaboratively, they set joint goals and evaluate the results. In West Virginia, the state FB is a strong supporter of the Progressive Agriculture Safety Day program at the state and local levels. In other states, the FB is the lead in youth injury prevention programs at the local level.

The Progressive Agriculture Safety Day program, formerly known as the Progressive Farmer Farm Safety Day Camp program, was founded by *The Progressive Farmer* magazine in 1995. The Progressive Agriculture Foundation evolved from *The Progressive Farmer* magazine as the legal entity of the safety activities and is a nonprofit organization that trains organizers and provides the resources that local communities need to conduct 1-day safety programs that are promoted as age appropriate, hands-on, fun, and safe for children. Progressive Agriculture Safety Days are conducted in the United States, Canada, and the US territories. The mission of the Progressive Agriculture Safety Days is to make farm and ranch life safer and healthier for all children through education and training. For 2011, 400 Progressive Agriculture Safety Days were planned in 34 states, 6 Canadian provinces, the US Virgin Islands, and American Samoa. In 2010, the safety days reached 77,000 participants with the help of 19,000 adult and older teen volunteers. For 2011, it is projected the program will have reached a total of 1 million youths and volunteers in education and training activities since its inception in 1995.

Farm Safety 4 Just Kids (FS4JK), founded by spokesperson and President Marilyn Adams in 1987 after the death of her 11-year-old son in a farming incident, is a nonprofit organization based in Iowa, and has about 120 chapters in the United States and Canada, with outreach coordinators/youth representatives in 10 states. These outreach positions are sponsored by major agribusinesses such as Monsanto, ADM, and Cargill. The FS4JK mission is to promote a safe farm environment to prevent health hazards, injuries, and fatalities to children and youth. They do this through resource creation (educational packets), with an active resource distribution system, program delivery, and community organizing. In 2010, their chapter network and outreach coordinators delivered more than 1200 community

events to 169,000 children, youth, and farm families, with 8500 volunteers donating 41,000 hours of volunteer time. Another 1,900,000 individuals were exposed to safety information through media interviews, press releases, trade shows, fairs, and other activities.

The Migrant Clinicians Network (MCN) is a national, nonprofit organization that works to improve the health of migrant and seasonal farmworkers and other mobile populations. With support from NCCRAHS, MCN and FS4JK partnered to design a culturally and linguistically appropriate educational comic book aimed at minimizing pesticide exposure to migrant children. Through additional funding, MCN and FS4JK have distributed over 100,000 Spanish-language comic books. Using the comic book to strengthen farmworker educational efforts, MCN also developed and piloted a comprehensive farmworker training program on pesticide safety for the whole family that utilized promotoras de salud (community health workers) and incorporated the comic book to reinforce safety messages. MCN was able to show that a positive impact could be achieved in behaviors by utilizing popular education techniques. These and other efforts caught the attention of the Environmental Protection Agency (EPA) and resulted in a 2008 Children's Environmental Health Champion Award for outstanding commitment in protecting children from environmental health risks. EPA is now collaborating with MCN under a \$1.2 million, 5-year cooperative agreement to prepare primary health care providers to recognize and manage pesticide exposures.

In 2007, the Agricultural Safety and Health Council of America (ASHCA) was established as an industry-led not-for-profit organization with the mission to "Proactively address ongoing and emerging occupational safety and health issues affecting US agriculture" at a national level. ASHCA's members include producers, agribusiness, insurance, government, farmworkers, and medical and safety professionals. It is chaired by William Nelson, Vice President of Corporate Citizenship for CHS Foundation (the forerunner of CHS Inc., Cenex Harvest States, was formed in 1998 by a merger between two regional cooperatives, Cenex, Inc., and Harvest States Cooperatives), who is a founding member of ASHCA. According to Mr. Nelson, since agricultural safety and health is one of the giving areas for CHS Foundation, it seemed a natural fit to work with ASHCA. ASHCA encourages members to identify needs and trends in agricultural health and safety in the United States, become more efficient and effective in their efforts, and minimize duplicative efforts in developing safety programs. ASHCA provides members a way to look at issues from a broader perspective, considering shared values between industry, communities, and workers. By raising awareness of issues at the corporate level, a culture of safety can be nurtured. Although not yet specifically addressing childhood agricultural injury prevention, this development is important to note as an example of industry collaborating with partners (government and nongovernmental organizations), being proactive in identifying issues, and addressing the problems and trends of US agriculture safety and health concerns.

Table 1 provides a summary of the above-mentioned organizations, their focus on childhood agricultural injury prevention, and selected examples of partnering activities.

The aforementioned activities and organizations involved in partnerships exemplify the power and strength of collaborations in maximizing efforts to reduce childhood agricultural

injury. The translation of research findings into applied practice is a needed component to ensure that research is having an impact on day-to-day lives. This knowledge mobilization activity is vital to the overall effort to reduce childhood agricultural injuries, and should be continued and expanded.

Conclusions

Based on the foregoing activities and experience gained over the past 20 years in collaborating with partners, the following are suggested for creating and enhancing future partnerships.

1. NIOSH should continue leadership of the CAIPI in order to provide continuity and maintain the progress that has been made in childhood agricultural injury reduction, working with public and private sector partners, for example, national youth-serving organizations.⁷
2. Identify and involve a champion or champions in organizations who are high enough in the executive/administration echelon to be able to make independent decisions regarding support for youth agricultural safety and health activities.
3. Identify and engage committed and determined individuals at the local level for the purpose of making and maintaining change locally (e.g., involve governors, mayors, community leaders, and especially leaders in the agricultural community).
4. Increase collaboration between national efforts/organizations and community groups to address and develop local efforts to keep youth safe on farms, and to widely communicate/disseminate successful efforts.
5. Look and think “outside the box” for additional partnerships to prevent youth agricultural injuries (e.g., the Consumer Product Safety Commission regulates consumer products, perhaps try to involve them with agricultural products for youth safety).
6. Promote enhanced roles for the agricultural industry and private foundations, both in terms of funding and youth agricultural injury prevention, to address the issues and problems identified for agricultural youth (e.g., have major tractor manufacturers encourage their dealers to distribute North American Guidelines for Children's Agricultural Tasks tractor operation posters).

Continued and enhanced partnering activities at the national and local levels will help in promoting and developing activities that can impact the reduction of childhood agricultural injury numbers and rates on farms, as has been seen in the last decade.

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Table 1
Partnering Organizations for Youth Agricultural Injury Prevention

Organization	Focus area	Partnering example(s)
National Children's Center for Rural and Agricultural Health and Safety (NCCRAHS) http://www.marshfieldclinic.org/NCCRAHS/	Conducts research, education, intervention, prevention, translation, and outreach activities to enhance the health and safety of children in agriculture; establishment of guidelines for working youth, training of professionals, technical assistance	CASN, minigrants, Safe Play Areas on Farms, National Action Plan, 2001 Summit, NAGCATs, convene consensus development meetings/workshops on critical issues
NIOSH Agricultural Safety and Health Centers http://www.cdc.gov/niosh/agctrhom.html	Conduct research, education, and prevention projects to address the nation's agricultural health and safety issues. Complementary and some independent projects/efforts in agricultural youth injury prevention	Collaboration with NCCRAHS on Journalist Workshops, research on NAGCATs, youth work on farms
USDA/National Institute of Food and Agriculture http://www.nifa.usda.gov/fundview.cfm?fonum=1093	Supports national efforts to deliver timely, pertinent, and appropriate training to youth seeking employment or already employed in agricultural production; safety training for minority/underserved youth in agriculture	Federal Interagency Working Group to Prevent Childhood Agricultural Injuries, YFSEC
NIOSH, Childhood Agricultural Injury Prevention Initiative http://www.cdc.gov/niosh/topics/childag/	Provides national leadership, supports extramural research, surveillance, and outreach for childhood agricultural injury prevention	Federal Interagency Working Group to Prevent Childhood Agricultural Injuries, Childhood Agricultural Injury Prevention Research, and Childhood Agricultural Injury Surveillance
American Farm Bureau (AFB) http://www.fb.org/	Safety education/training for youth in agriculture	Arkansas FB school safety programs, Progressive Agriculture Safety, and FS4JK programs for educating youth on farm safety
Progressive Agriculture Safety Day http://www.progressiveag.org/	Safety education/training of adult Safety Day coordinators and youth in agriculture	State FBs to conduct youth safety programs, CASN tractor and ATV safety programs, annual training of Progressive Agriculture Safety Day organizers
Farm Safety 4 Just Kids (FS4JK) www.fs4jk.org	Safety education for youth in agriculture through chapters and outreach coordinators/youth representatives	State FBs to conduct youth safety programs, CASN tractor and ATV safety programs, Outreach Coordinators
Migrant Clinician Network (MCN) www.migrantclinician.org	Education/Training of health care providers	FS4JK minigrant collaboration, CASN, EPA, NCCRAHS, Paso del Norte Health Foundation
Childhood Agricultural Safety Network (CASN) http://www.childagsafety.org/	Coordination and sharing of safety programs across US and Canada; knowledge translation advisors to NCCRAHS	Tractor and ATV national safety efforts, safety calendar, coordination of strategic issues
Agricultural Safety and Health Council of America (ASHCA) www.ashca.com	Promoting industry-level culture of safety	Two national conferences to promote collaboration and raise awareness of agricultural safety and health issues