

An Injury and Illness Surveillance Program for Children and Staff: Improving the Safety of Youth Settings

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EXECUTIVE SUMMARY: The prevention of injuries to children and staff is of critical importance to recreation providers. Although program providers often document participant illnesses and injuries, the power of intentionally monitoring and sharing this information has not often been tapped in the recreation field. This article demonstrates how an injury and illness surveillance program was used to reveal patterns of injuries and illnesses within day and resident camps. These patterns suggested that children are less likely to be injured in day and resident camp settings when compared with participation in community-based sports, and, additionally, illustrated an organizing framework for injury and illness prevention that may be useful to other youth program providers. Primary injury topics appeared to be supervision patterns, falling on uneven terrain, and head injuries. Preventative strategies suggest analysis of levels of supervision, footwear policies, and activity-specific head protection. Two significant clusters of illness were identified. One included throat, nose, lung, ear, and eye maladies, while the second was comprised of upper and lower gastrointestinal illnesses, those often associated with what one eats or is exposed to (e.g., Norwalk virus). Proactive approaches to illness management center on maintaining resilience so people are less susceptible to pathogens and implementing practices that minimize the potential that someone will get ill. The innovation of sharing of data in a systematic way proved helpful in understanding illness and injury. The systematic investigation of when, where, and how injuries and illnesses occurred brought to light trends that yielded specific, practical strategies that administrators can implement to improve safety for staff and participants. This new approach to understanding what is happening in youth programs allows for targeted intervention based on real data rather than perceptions of trends. As program administrators work to improve health and safety, understanding the trends related to illness, injury, and proactive management can make a difference in safety improvements.

KEYWORDS: illness, injury, youth programs, surveillance, risk management, camp

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Injury has long been recognized as a leading cause of the death of children (Peden, McGee, & Krug, 2002; Borse, Gilchrist, Dellinger, Rudd, Ballesteros, & Sleet, 2008). A dominant theory of childhood injury in the early to mid-twentieth century framed “accident” proneness as an individual trait, which conflicted with traditional health approaches to disease and prevention, focusing on environmental causes (Grossman, 2000). Use of the term “accident” to describe what was happening to children became problematic, because “accident” implied randomness and a lack of predictability, when in fact, the opposite was true (Grossman, 2000). The transition from the use of “accident” to “injury” represented a paradigm shift that led to the modern concept of injury control (Robertson, 2007).

Illness has also been impactful to children. Morbidity and mortality data maintained by the Centers for Disease Control and Prevention (CDC) indicate that illness impacts for youth include loss of time from youth activities, financial burden to parents, and impacts to self-image (Potter, 2006; National Center for Health Statistics, 2008). While control of illness is not always possible, youth programs are impacted by communicable illnesses. In addition, youth perceptions of the quality of that experience can be colored by feeling “well” or “not well” (National Institute for Children’s Healthcare Quality, 2008).

Providing safe, high-quality experiences for children, adolescents, and adults is of paramount importance to the recreation community. The challenge seems to be related to how good decisions can and should be made about program safety and quality. According to Grossman (2000), reduction of childhood injury and illness in the United States over the past 25 years is not a coincidence, but rather the result of a concerted effort of professionals in the areas of health surveillance, intervention, and evaluation. The recreation field can benefit from surveillance programs that have monitored the injuries and illnesses that actually occur in youth and adult programs. The systematic exploration of when, where, and how creates an opportunity for administrators to improve safety by understanding the trends within their own program and by taking proactive approaches to better manage risk. This article describes a camp-based injury and illness surveillance program, explores emerging results from the first few years of the program, and provides implementation strategies for other youth program providers.

Injury and Illness Surveillance

Surveillance at the National Level

The first step in preventing illness and injury is collecting accurate data. National-based surveillance has demonstrated success in identifying risk factors for decreasing adverse events in several areas of research. A commonly known successful national surveillance system is the U.S. Consumer Products Safety Commission’s National Electronic Injury Surveillance System (CPSC NEISS), which has collected injury data from a nationally representative probability sample of U.S. emergency departments since 1971. NEISS has consistently provided researchers and policy makers with high-quality injury data, and CPSC officials use these data to help make consumer product recall decisions.

Specific for recreation and sports is a system called the National Collegiate Athletic Association Injury Surveillance System (NCAA ISS). Data collected by NCAA ISS has been used to identify risk factors; to develop, implement, and evaluate preventive interventions; and to demonstrate subsequent decreases in sports-related injuries among collegiate athletes. For example, NCAA ISS data has been instrumental in developing several interventions intended to reduce the number of preseason heat-related football injuries including the elimination of consecutive days of multiple practices, daily hour limitations, and a gradual increase in equipment for conditioning and heat acclimation.

Another national sports-related injury surveillance system, the National Center for Catastrophic Sports Injury Research at the University of North Carolina at Chapel Hill, called attention to injuries associated with the racing dive in the shallow end of the pool, allowing for rule changes such as changing the height of the starting platform depending on the water depth to prevent swimming-related catastrophic injuries (Mueller, 2001; NCCSI, 2004b).

Primary and Secondary Schools

The Centers for Disease Control and Prevention (2001) estimates that 14 million unintentional injuries are sustained by children less than 14 years of age. A national survey found that among athletes ages 5 to 14 years, 15 percent of basketball players, 28 percent of football players, 22 percent of soccer players, 25 percent of baseball players, and 12 percent of softball players have been injured while playing their respective sports (National SAFE KIDS Campaign, 2000).

High school athletes account for an estimated 2 million injuries, 500,000 doctor visits, and 30,000 hospitalizations annually (Powell & Barber-Foss, 1999). A High School Sports-Related Injury Surveillance Study was conducted in 2005-2006 by the Center for Injury Research and Policy and Columbus Children's Hospital. One hundred U.S. high schools nationally representative of geographic location and school size were randomly selected, and certified athletic trainers (ATCs) affiliated with the National Athletic Trainer's Association at each participating school reported injury and exposure data for nine sports (boys' baseball, boys' football, boys' wrestling, girls' softball, girls' volleyball, and co-ed basketball and soccer). The overall injury rate was 2.44 injuries per 1,000 athletic exposures, defined as one athlete participating in one practice or competition during which the athlete was exposed to the possibility of athletic injury (Centers for Disease Control, 2006).

Youth Camps

Over 11 million children attend more than 12,000 summer camps each year (American Camp Association, 2008). Early attempts to describe camp health issues were often simple reviews of camp infirmary records (Asnes, Feldman, & Gersony, 1974; Fiedelman, Carbon, & Lewis, 1983; Rotman & Schmalz, 1977). The U.S. General Accounting Office attempted to characterize the existing regulations regarding health and safety at summer camps in the late 80s, and found that regulations differed markedly between states and little quantifiable information on deaths, injuries, or illness (GAO, 1989).

The American Camp Association (ACA) provides an accreditation program for camps, with more than 300 standards related to health, safety, and programming. One of these standards requires that camps maintain appropriate recordkeeping (i.e., health record logs) of injuries and illnesses (American Camp Association, 2007). The ACA accreditation process has been a driver for injury and illness surveillance, as some camps have implemented processes for regularly reviewing health record logs. As a whole, however, camps have lacked a reliable surveillance methodology.

More recent surveillance studies have reported injury patterns sustained during a single camp event conducted over a nine day period (Wetterhall & Waxweiler, 1988), illnesses and injuries presenting for treatment at camps over a one-month period (Key, 1997; Trachtman, Woloski-Wruble, & Kilimnick, 1994), injuries sustained at a single camp over one summer (Elliot, Elliott, & Bixby, 2003), and illnesses and injuries presenting for treatment at three summer camps over a 13-year period (Rauckhorst & Aroian, 1998). These studies had limitations including short follow-up periods, small sample sizes, and a focus on campers rather than both campers and staff. Erceg (2007) pointed out that a healthy camp environment is based on intentionally monitoring the injuries and illnesses of its campers and staff. This basic strategy is based on day-to-day surveillance that not only tells camp administration what's going on but also provides clues to improve the health experience.

Modeled after the NCAA ISS, the American Camp Association (ACA) launched a five-year injury and illness surveillance program in U.S. day and resident camps known as the Healthy Camp Study, in cooperation with The Ohio State University and the Research Institute at Nationwide Children's Hospital. The Healthy Camp Study¹ is to date the only implementation of a long-term illness and injury surveillance study in a representative sample of U.S. summer camps. By using a successful methodology similar to that used in the NCAA ISS, the Healthy Camp Study sought to monitor illnesses and injuries sustained by summer camp campers and staff while identifying risk factors associated with such illnesses and injuries. Thus, the purpose of the program was to monitor illness and injury rates among campers and staff at U.S. summer camps, understand risk factors associated with such adverse events, and identify prevention strategies to reduce the incidence of camp injuries and illness.

Method

Data were collected during the summers of 2006 and 2007 from 160 camps who voluntarily enrolled in the program. Of these, 140 camps provided usable data. Of the 140 camps providing data, roughly 40 percent were day camps and 60 percent were resident camps, making the sample representative of ACA-affiliated camps. Data were collected utilizing a Web-based program called CAMP RIO™ (Reporting Information Online) to perform surveillance of illnesses and injuries sustained by day and residential campers and staff. During the 10-week data collection period, health care staff from participating camps logged into CAMP RIO™ weekly to enter exposure and illness/injury data.

For campers, a reportable illness or injury was an event that occurred during a camper's participation in the camp program, whether at camp or during an off-site camp activity (e.g., canoeing), resulting in the removal and/or restriction of the camper from their normal camp routine. For staff, a reportable illness or injury was an event that occurred during a staff member's contracted dates, resulting in the removal and/or restriction of the staff member from his/her usual and routine camp responsibilities. In resident camps, the illness or injury had to restrict the camper or staff member from camp activities for \geq four hours. In day camps, the illness or injury had to restrict the camper or staff member from camp activities for \geq four hours in 2006 and only \geq one hour in 2007. This change was made based on feedback provided by participating day camps that due to the nature of day camps, many of their campers and staff were not present at camp long enough to meet the four-hour criterion.

For each injury and illness meeting the study definition, a reporter at the camp was asked to submit an injury/illness report form. Although most reporters were nurses, other staff with EMT certification or first-aid training could also report. Illness and injury reports collected information about the individual sustaining the event (age, sex, role at camp, presence of pre-existing chronic health conditions, length of time at camp during that season,

etc.), the injury or illness event (diagnosis, body site, primary symptoms, etc.), and the context leading up to the event (where the incident happened, activity in which the person was engaged, time of day, week, etc.).

Three concepts are important for understanding the results of this study: impact, exposure, and rate. For resident camps, “impact” was defined as an injury or illness that took a person (camper or staff member) away from the camp experience for at least four hours. For the day camp community, injuries and illnesses had to remove a person from their usual camp experience for at least one hour.

“Exposure” referred to the length of time a person was at camp (i.e., how long they were at risk for injury or illness). Children spending one week at camp had less exposure than children staying four or more weeks. The same held true for staff; the number of days a staff member worked determined how long that person was exposed to risk of injury/illness. Exposure data for each injury or illness were based on the concept of a “camp day,” defined as one camper or staff member at camp for one day. Exposure data were reported using “per 1,000 camp days.”

“Rate” referred to the number of impacts that occurred during a specified exposure. Although many research studies report percent change, this study discusses changes in rates. Using rates instead of percentages is common in epidemiological studies such as this one because rates take exposure data into consideration. To make sense of this, imagine 1,000 campers and staff standing in front of you. Now imagine that your camp injury-illness rate per 1,000 camp days was 1.5. This means that given those 1,000 people, 1.5 of them would get so injured or ill on this day that it pulled them from their camp routine, thus meeting the definition for inclusion in this study.

Results

During the summers of 2006 and 2007, the percent change in the rates of injuries and illnesses remained relatively constant, which increases the ability to trust the results and highlights areas to investigate. The broad understanding can be summarized by exploring three key findings: (1) the likelihood of campers or staff getting ill or injured is fairly low (about 1.5 people in resident camps and about 0.75 people in day camps per 1,000 camp days); (2) campers and staff tend to get ill more often than injured in both day and resident camps, and (3) campers and staff experience injuries and illness differently. One would expect campers to have more impactful incidents because of their higher growth and development rate, yet this is not borne out in the data to date. On average, campers sustained five adverse events for every four staff adverse events. Table 1 shows the similarities in injury and illness rates between Year 1 (2006) and Year 2 (2007).

Injury Findings

Campers were injured at a rate of 0.48 per 1,000 camp days while staff were injured at a rate of 0.41 per 1,000 camp days. Camper and staff injuries were associated with improper supervision and falling on uneven terrain. Sprains/strains (28.9%) topped the list of diagnoses most likely to take people away from camp for four or more hours, followed by wounds (15.4%), bruises/contusions (15.0%) and fractures (15.0%). The context in which these injuries occurred included: while playing a sport or game (34.4%), during other recreational activity (15.7%), while walking (8.4%), and when running, jogging or jumping (6.3%). The fact that musculoskeletal injuries accounted for the majority of injuries, and that these occurred during some type of physical activity, raises the question of supervision as well as use of protective equipment and appropriate conditioning. In about 40% of these injuries, protective equipment was part of the activity but not used in about 15% of these cases. When injury occurred, a staff/volunteer person was on-site and on duty in only 23.5% of these cases.

Table 1. Comparison of 2006 and 2007 Injury-Illness Rates Per 1,000 Camp Days for Resident and Day Camps.

	Resident Camp		Day Camp	
	2006 (88 camps)	2007 (110 camps)	2006 (52 camps)	2007 (50 camps)
Total	1.49	1.47	0.75	0.76
Illness only	0.98	1.00	0.48	0.45
Injury only	0.50	0.46	0.27	0.31
Campers	1.54	1.55	0.69	0.70
Illness only	1.00	1.06	0.46	0.41
Injury only	0.54	0.48	0.23	0.30
Staff	1.33	1.24	0.83	0.92
Illness only	0.93	0.83	0.51	0.60
Injury only	0.40	0.41	0.32	0.33

Injuries across all day and resident camps, tended to happen to male campers (58 percent of camper incidents) and female staff (55 percent of staff incidents) and were more likely to occur midweek (Wednesday and Thursday) with more injuries occurring between noon and 6:00 p.m. than at other times of day. About 10 percent of all injuries were associated with pre-existing chronic conditions.

Specific to day camp, campers were five times more likely (on average) to present to healthcare staff with an injury as compared to an illness. This suggests that day camps that focus on injury reduction among campers may reduce the time and monetary impact of this experience for their campers (and parents). The most prevalent reason for campers seeking injury care was because of head/face wounds (13.5%) and blows to the head (11.2%). Staff injuries were most often musculoskeletal events (27.2%).

Specific to resident camps, staff sustained a larger proportion of hand/wrist injuries compared to campers, most often due to knife injuries. Most of these knife injuries involved a finger (81.8%), were treated off-site (63.6%), and happened during food preparation (73%).

Illness Findings

Across all day and resident camps, campers and staff were both twice as likely to sustain an illness compared to an injury, with campers becoming ill at a rate of 1.0 per 1,000 camp days and staff becoming ill at a rate of 0.83 per 1,000 camp days. Illness among female staff (65%) was more common than male staff (35%). Male campers reported more illness (54%) than female campers (46%). These illnesses were related to a chronic medical condition in 20.4% of the cases for campers and 18.8% of the time among staff. This means that almost one in five illnesses reflected a chronic health condition, indicating a potential for intervention by monitoring the status of people with chronic health conditions. Like injuries, illnesses were more likely to be reported during camp activities and during free time, but illness rates also increased during overnight experiences, something not seen in the injury data. As might be expected due to hunger, dehydration, and fatigue, illness was more likely to occur as the day wore on.

Two significant clusters of illnesses were identified. One included throat, nose, lung, ear, and eye maladies (27% for campers, 29% for staff), while the second was made up

of upper and lower gastrointestinal illnesses (20.1% for campers, 17.3% for staff), those often associated with what one eats or is exposed to (e.g., Norwalk virus). This raises a question about the impact of communicable diseases within the resident camp population. Communicability was reported in 2007 in 42% of the camper illness events and 41% of the staff events; however, only half of these were communicable illnesses actually seen in other people, suggesting that communicable illness is certainly present but not always passed along within the resident camp community.

Treatment Received

When an incident did occur, the majority of campers and staff received care for that injury or illness on-site at camp, specifically 54.9% of the time in 2007. However, 43.4% of the incidents were significant enough that the person was not only removed from camp activities, but also received treatment off-site (i.e., saw a physician in town). Illnesses were also more likely to be treated at camp if one was a child (75%) but had a 50:50 chance of referral for out-of-camp care if the individual was a staff member.

Assuming that most resident camps would prefer that campers and staff not lose camp time by going off-site for care, this suggests that resident camps can either improve the ability of healthcare professionals to provide care at camp and/or reduce the severity of incidents so not as many need out-of-camp care. Although it was rare that an incident resulted in a camper or staff member not returning to camp (about 5% overall), overall down-time from injury-illness events was substantial. Fifty-five percent of camper injury-illness events kept them away from their camp experience for 4-24 hours and 58% of staff events kept them away from their job duties for 4-24 hours. Imagine how different camp would be if those staff hours were not lost.

Both campers and staff were more likely to have an injury treated off-site (68% for campers, 75% for staff) than remain at camp for treatment. Since the study group reported that most health center staff were professionals (e.g., licensed MDs and RNs), this may well reflect the need for professional equipment and skills—like stitches and X-ray—that are not available at most camp health centers. Providing medical care for staff injuries may be influenced by worker compensation procedures and, as a result, make it more likely that staff were referred out-of-camp for treatment. Exploring why health care was sought is also relevant. With regard to illness, day campers and staff sought healthcare primarily because of gastro-intestinal concerns (30.2% and 24.5% respectively) and upper respiratory discomforts (19.9% and 40.8% respectively).

Discussion

Improving Health and Safety in Youth Programs

The camp experience has a 100-year history, with millions of U.S. children attending summer camp each year. Despite this broad exposure, little recent evidence has been collected about the safety of the camp experience compared with other youth activities. The results of this study indicate that children are exposed to lower rates of injury in camps when compared to injury rates in community-based sports (Table 2). This is remarkable considering that “exposure” to camp is so much greater than the comparative youth sports, particularly during resident camp settings in which campers are at camp twenty-four hours a day. These results are relevant for a wide variety of recreation programs that provide day and resident camps and suggestive of best practices and opportunities to develop targeted preventive interventions.

The fact that campers and staff were more likely to become ill at camp rather than injured indicates that there is an opportunity to be proactive toward illness prevention in a similar manner that many recreational programs currently focus on risk management and

Table 2. Comparison of Youth Injury Rates in High School Sports* with Youth Injury/Illness Rates in Camps.

<u>Injuries Per Thousand Exposures</u>	
Boys' football	4.36
Boys' soccer	2.43
Girls' soccer	2.36
Girls' volleyball	1.64

<u>Illnesses/Injuries Per Thousand Days</u>	
Day camps	0.69
Resident camps	1.54

*Centers for Disease Control

injury prevention. The development of appropriate plans to prevent the spread of germs in the camp community is critical. Staff need to role model appropriate techniques. The mind-set that when one starts to feel ill, it is better to stop and recover than “push through it” needs to be fostered. This is particularly important since epidemiologic studies indicate that as humans fatigue and/or get hungry, the likelihood that an incident may occur rises (Erceg, 1996; Neinstein, 2002; U.S. Department of Health and Human Services, 2000).

With regard to illness, both gastrointestinal concerns and upper respiratory discomforts are associated with communicable illness. Results indicated that 32% of camper and 44% of staff illnesses were communicable in the day camp population. Of the communicable illness load, both camper and staff groups showed evidence of communicability (the illness was seen in others) just under 50% of the time. By improving infection control practices in day camps, recreation programs can broaden the gap between communicable illness and its expression in others. Strategies include training youth and staff to appropriately cover their mouths when coughing or sneezing, improving hand-washing education, procedures, and monitoring, and providing hand sanitizer as an option when soap and water are unavailable. Educational resources, such as the American Camp Association's on-line courses for injury and illness prevention, are tools for training staff in appropriate practices.

When administrators design staff training programs, the developmental stages of children, both psychological and behavioral, are often emphasized. This study suggests that additional emphasis should be placed during staff training on the physical changes that children manifest at different ages. The knowledge that a child's head is a different proportion (i.e., larger) when compared to the rest of the body at certain developmental stages might motivate staff to better protect a child's head during youth programs. Staff may be aware of the potential for head injuries occurring in specific activities (such as skateboarding, climbing, etc.), but the awareness needs to be translated into specific strategies that are incorporated during program planning to make head injuries less likely to occur.

The fact that the data indicated that protective equipment was not being used in about half of applicable injury events creates great fodder for staff training scenarios and supervisor observation checklists. Recreation programs may be able to prevent these types of injuries by using sports equipment that is appropriate for participants' age and development level, and by ensuring that proper supervision, which includes adequate warm-up and conditioning, is provided during camp activities, particularly these requiring physical activity and movement. Data indicated that day campers experienced numerous head wounds and

blows to the head. Given that younger campers—the clientele of many day camps—have larger heads in proportion to their bodies and underdeveloped motor skills, and that injury to one’s head has potential for lifetime impact, the data suggest that day camps need to pay particularly close attention to strategies to reduce the likelihood of head injuries. Since the data also indicated that most camper injury incidents occurred on playing fields/gyms (43.5%) followed by “near water” (14.1%), this may provide an indication of where day camp directors can start to manage camper head injuries.

The results regarding trips and falls suggest that more attention needs to be given to appropriate footwear and that recreation program participants needs to be educated about traversing ground surfaces. Although closed-toed shoes are generally perceived to be safer than flip-flops, how many organizations have incorporated this information into program footwear policies? Directors who do make footwear policy changes often report significant reductions in foot and ankle injuries (Smith & Garst, 2006). People spend less time outdoors and there is a learning curve to learning to walk on uneven surfaces. Awareness needs to be raised to generate ideas about how to improve surface conditions where needed or to caution people about uneven surfaces when appropriate.

The issues of supervision merits attention, since the results of this study suggest that injuries tended to occur relative to scheduled activity times. Staff need to understand that injuries are just as likely to occur during supervised events. Being clear with program staff about what youth supervision looks like and how a youth supervision plan is to be implemented is critical. One approach for raising staff awareness is to ask them to consider how parents would want their children to be supervised. Follow this by actually describing behaviors associated with supervision. This creates an overall team awareness of how to supervise children during both active and non-active program.

University and Non-Profit Collaboration Provides Effective Model

In the Healthy Camp Study, the American Camp Association, The Ohio State University, the Association of Camp Nurses, participating camps², and other partners are collaborating on a monitoring program to better understand the prevalence and causes of youth and staff injuries and illnesses, the first national study of its kind in U.S. camps. This unique alliance between recreation agencies, researchers, and professional associations showcases the power of collaboration to make a difference for healthier communities.

The injury and illness surveillance model developed through this program provides important information about promising practices and yielding data relevant for program improvement. For each summer of involvement, participating camps received a national summary report of findings and a camp-specific report of findings so that they could compare camp-specific results with the national benchmark. These reports are easily incorporated into existing program evaluation and improvement processes and systems. This program also suggests the relevance of developing a national database of injury and illness data for ongoing, long-term trend analysis.

Collecting Systematic Health Information

As with other national surveillance systems, the first step for monitoring injuries and illnesses in youth settings is tracking information. A systematic investigation of healthcare logs can be an important step in the annual evaluation process. The simple act of tracking injury and illness patterns will likely draw attention to trends and details that might not have been noticed before, but the real power is in collaborating with other programs to learn more about the bigger picture. When attention is paid to staff and participant safety, understanding trends, and applying the knowledge to a specific setting, decisions about staff training, healthcare staffing patterns and preventive interventions are influenced.

Understanding where and when preventable incidents may occur allows for focus during training. Knowing the conditions that are most likely to yield illness, it is more likely to put the appropriate number and type of staff available or on call. When policy or procedure are examined and modifications are made that reduce incidents, we are really living up to our calling as a profession. Knowledge and action can make a difference. As the field of youth development builds more credibility and parent expectations for safety increase, steps taken by other groups responsible for public safety, such as the Consumer Products Safety Commission and the Centers for Disease Control and Prevention, set the standard. Systematic examination of the data from children and staff in youth development settings such as camp provides a unique lens into the relative safety of recreational settings and opportunities for program improvements.

Conclusion

Recreation providers want to improve the health and safety of their programs, but many providers do not realize the knowledge that could be gained by intentionally and systematically analyzing their illness and injury data. Many program providers collect and document this information, but the process of connecting time of day, frequency of occurrence and severity is more helpful in the risk assessment and management process than just documentation. This program illustrates that specific, timely and helpful knowledge gain be gained to improve the health and safety of children and staff involved in youth programs. While staff, volunteers, administrators, and boards can review the data collected, there is greater reliability and the ability to see global trends emerge through collaboration with others. Collaboration with an “outside” agency such as a college or university allows for systematic documentation of health information. Join other recreation providers in the goal to improve health and safety in youth programs by adopting a model of collaboration to collect systematic health information.

Footnotes

¹ Funding for the five-year (2006-2010) Healthy Camp Study of U.S. camp injuries and illness was provided by the Markel Insurance Company, Glen Allen, Virginia.

² All day and residential camp programs are invited to participate in this free study. For more information, visit http://www.acacamps.org/research/enhance/healthy_camp_enroll.php.

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