

**NC Institute of Medicine
Task Force on Adolescent Health
July 11, 2008**

Meeting Summary

Attendees

Task Force/Steering Committee/Science and Data Committee Members: Donna Breitenstein, Rep. Angela Bryant, Mimi Chapman, Steve Cline, Amy Davenport, Rep. Susan Fisher, Carol Ford, Jennifer Garrett, Laura Gerald, Nelle Gregory, Lloyd Hackley, Peter Leone, Lew Margolis, Jim Martin, Steve North, Connie Parker, Kay Phillips, Marcus Plescia, Sen. William Purcell, Michael Sanderson, Steven Shore, Illene Speizer, Carol Tyson, Tom Vitaglione, Andrea Weathers, Irene Zipper

Interested Persons: Barbara Bradley, Valerie Collins Russell (Speaker), Rob Foss (Speaker), Bronwyn Lucas, Steve Marshall (Speaker), Ruth Peterson, Scott Proescholdbell, Krista Ragan, Sharon Rhyne, Sharon Schiro, Beth Spangle, Jennifer Woody, Elizabeth Zurick

NC IOM Staff: Thalia Fuller, Mark Holmes, David Jones, Pam Silberman and Berkeley Yorkery

WELCOME AND INTRODUCTIONS

J. Steven Cline, DDS, MPH, Co-chair
Deputy State Health Director

Dr. Cline welcomed everyone to the second meeting of the Task Force on Adolescent Health and thanked them for coming. This was the first task force meeting held at the NC Institute of Medicine's new office and he congratulated the NC IOM for this accomplishment.

EVIDENCE-BASED AND PROMISING PROGRAMS AND PRACTICES

Carol Ford, MD, Co-chair
Program Director, NC MARCH
Associate Professor, UNC Chapel Hill School of Medicine and School of Public Health

The work of the Task Force is to develop an evidence-based road map for improving the health of adolescents in North Carolina. The first step was to define the focus of the Task Force to the six main areas it will study: unintentional injury, chronic illness, substance abuse, sexual health, violence and mental health. There will also be a session dedicated to cross-cutting themes and strategies. The Steering Committee has been reviewing US and NC data and suggested these focus areas based on what the most common problems are, the priorities outlined in Healthy People 2010 objectives., which problems have the

highest impact and whether strong evidence or promising practices exist to guide recommendations to address these issues.

The second step is to review the available evidence. Members of the Science and Data Committee research the evidence-based reviews already conducted by organizations such as the Centers for Disease Control and Prevention (CDC), US Preventive Task Force (USPTF), Child Trends, Helping America’s Youth, and other summary sources suggested by topic experts. Because each of these uses different terminology to describe strength of evidence, the Task Force Science and Data Committee developed a consistent terminology with five levels of evidence to be used throughout the rest by this Task Force.

Strong Evidence	Well-designed studies with at least two studies demonstrating evidence of effectiveness
Sufficient Evidence	Study designs may not be as rigorous but show effectiveness or there is only one well-designed study demonstrating effectiveness
Insufficient Evidence	Studies were poorly designed or executed, too few studies were analyzed, or findings were inconsistent
Promising Practice	Programs that are based on science or theory, but have not been tested through experimental research
Not Recommended	Studies have demonstrated that the programs do not work or cause harm

The final step is to compile this information into a summary table for each topic describing the type of intervention, strength of evidence, source of review, level of intervention and whether there was specific attention to adolescents or health disparities. This approach allows for checks and balances, with multiple reviewers from different perspectives involved, however it is important to note that some research may be weak, may produce mixed results, or may not be available for many strategies. Amy Davenport created the table for unintentional injury and will take the lead on creating future tables.

UNINTENTIONAL INJURIES DATA OVERVIEW

Valerie Collins Russell, MEd, DHSc
 Head, Injury and Prevention Branch
 NC Department of Health and Human Services

Unintentional injuries are defined as events where a harmful outcome was not sought and which occur in a relatively short period of time. They were the leading cause of death for North Carolinians between the ages of 1-44 in 2005. In particular, 41% of deaths for 10-14 year olds and 52% for 15-20 year olds were the result of unintentional injuries. It is also important to remember, however, that the number of deaths is just the tip of the iceberg, with much larger numbers of adolescents experiencing hospitalizations,

emergency department visits, outpatient visits and medically unattended injuries at home, work and school.

The leading cause of childhood injury related death during 2005-2006 was motor vehicle accidents (MVA), accounting for more than 51% of deaths from injury for children aged 10-20 in North Carolina in 2005. The leading causes of childhood injury related hospitalizations during that same period were motor vehicle crashes, falls, cuts, and being struck, which include injuries from rollerblading, bicycle riding and other sports. The total cost for hospital visits, not including ED visits, for these injuries was more than \$224 million, with the majority for motor vehicle crashes, and \$90 million for falls, cuts, and being struck.

Many of these injuries can be avoided. Survey data reveals that 89% of NC high school students who ride bicycles never or rarely wear helmets, and between 29% and 46% of NC parents of 11-17 year olds reported that their children never wore a helmet when riding a bike, scooter, skateboard, roller skates or rollerblades. Fortunately, only 5% of parents reported that their child inconsistently wears a seatbelt when the parent is driving.

MOTOR VEHICLE INJURIES

Rob Foss, PhD

Senior Research Scientist & Director
Center for the Study of Young Drivers
UNC Highway Safety Research Center

Interventions to successfully reduce the number of adolescent motor vehicle (MV) related injuries are difficult to develop and require that we consider many factors at both the societal and individual level. Our goal should not be to implement new laws or programs, but to put in place a process that alters behavior.

Some promising policy options include graduated drivers licensing (GDL), requiring the use of seat belts, a primary belt use law, high visibility enforcement, and zero blood alcohol level (BAC) limits for teens. Each of these is already been done in North Carolina and has had some success. GDL has been particularly effective, as the primary reason new drivers have accidents is not because of age, but because of lack of experience. This system allows them to gain important practice while accompanied by more experienced drivers. Since GDL was implemented in NC there has been a 35.8% permanent reduction in the 16-year old driver hospitalization rate.

One promising approach in North Carolina would be to improve the use of DWI checkpoints. In designing effective DWI checkpoints, it is important to remember that the goal is deterrence, not punishment. They need to be highly publicized, visible and on-going, as opposed to simply a holiday blitz. The objective is to create an enduring uncertainty and a fear of getting caught, not catching offenders. Between 2001-2005 in North Carolina there were more than 41,000 arrests from 30,000 DWI checkpoints, however, the percentage of fatal crashes involving alcohol during that period did not

change. There is evidence, however, that the fewer people drink and drive after a highly publicized DWI checkpoint campaign.

Another option is to increase parental involvement. However, it is hard to design policy to this end and there is little research supporting how to proceed. A third idea is to completely revise how we train new drivers. While there is little research under way in this regard, our current system is based on an outdated model and teaching method. The purpose of driver training should not focus on teaching skills, but providing experience. As such, teaching needs to be more interactive, experiential and evidence-based. Studies need to be conducted to better understand young driver errors, how to train them, as well as how to better involve parents in this process. Teaching them not to drive with cell phones should be one aspect of this program, as it has the same effect on teens as driving with a BAC of 0.09. North Carolina has an opportunity to use the current infrastructure for a new training process, unlike other states which have dismantled their programs and would have to start from scratch.

Other policy options include mass media campaigns and multi-component interventions with community mobilization. There is little evidence, however, that these approaches are effective and the best use of our resources. Although some evidence-based reviews seem to suggest these work, they are much more comprehensive than anything typically done in the United States.

SPORTS AND RECREATION INJURIES

Steve Marshall, PhD

Assistant Professor

UNC Department of Epidemiology

Sports and recreational physical activity are an important part of a healthy lifestyle. Participation in sports and recreational physical activities has benefits for children's well-being, including: reducing obesity and related chronic disease, improving cardiovascular health, self-esteem and self-image, and teaching children how to be a part of a team. However, children and youth cannot participate in such activities if they are injured. Thus as policies and programs are developed to promote youth participation in sports and other physical activities, attention must also be paid to preventing youth injuries.

In North Carolina, 82,000 children and young adults under the age of 25 visit emergency departments with sports related injuries each year. There are 175,582 high school athletes in North Carolina. During any given season of high school sports, 1 in 20 student athletes will suffer from an injury. Football, soccer and basketball carry the highest injury risk of high school sports. Management of injury risk is the key to successfully promoting physical activity and reducing chronic disease (such as osteoarthritis from sports injuries) in later life.

While there are sports-specific potential strategies for reducing injuries, the following prevention strategies focus on recommendations that would reach large numbers of young athletes across various sports and activities.

- Increasing the use of bicycle helmets: Bicycle helmets reduce the risk of head injury by 80%, yet usage rates remain relatively low (<25%). Although North Carolina has a law requiring bicycle helmets for riders under 16, it is not widely enforced. North Carolina could do a number of things to improve helmet use including increasing awareness of the law and benefits of helmet use, increasing helmet ownership through incentives, and increasing usage rates through enforcement or requiring all riders to use helmets.
- Increasing use of mouthguards in youth and young adult sports: Mouthguards prevent 50% of sports-related dental injuries, including those to the teeth, mouth and lips. Although North Carolina requires mouthguards in football, usage in most other sports is voluntary. Usage rates could be improved through increasing awareness of the benefits of mouthguards, increasing ownership through giveaways and expert fittings, and increasing usage by working with coaches, high schools and youth leagues to promote or require the use of mouthguards.
- Preventing anterior cruciate ligament (ACL) injuries: ACL injuries require lengthy rehabilitation and often lead to early osteoarthritis. Approximately 3,000 North Carolinians tear their ACLs each year. Training programs that focus on strengthening and properly warming up the leg muscles have been shown to prevent 50% of knee injuries. There is high demand from coaches, youth leagues and high schools for training on preventive training programs, the limitation is not having enough people providing the training to meet the demand.
- Properly managing concussions: There are over 80,000 sports-related concussions in North Carolina each year. The CDC has developed a toolkit to help parents, coaches, trainers and athletes understand the signs and symptoms as well as proper management of concussions. Additionally, there are readily available tools for teams and coaches to use on the sidelines of games to assess whether an athlete has suffered a concussion and what to do if they have. Increasing use of such tools should help reduce the numbers of youth who return to sports before they have fully healed.

Other strategies to consider include increasing the number of certified athletic trainers in schools and improving injury prevention resources for high schools (which might be doable using the Tobacco-Free Schools model for Sport-Smart Schools).

Discussion

Q: Is there a correlation between the decline in P.E. (teaching sport skills) and sports injuries.

A: There did used to be more “cross-training” where kids would play multiple sports (both organized and recreationally) which can help protect from and prevent injuries.

Discussion of ideas to increase helmet use including working with manufacturers, changing current laws and providing incentives.

Discussion of changing social norms in childhood regarding recreational play vs. organized sports and other activities. Today many parents are worried about their children participating in unorganized play which pushes more children in to organized sports. Need to figure out what restrictions there now with parents and children and work with them and their current situation. Changing social norms is much more difficult than other ways of tackling this issue.

Discussion of Potential Recommendations

Motor Vehicle Injuries

- Could work on changing the way DUI checkpoints are currently implemented to make them more effective.
- Banning cell phone use for drivers of all ages.
- Revising driver education in some way, possibly through pilot programs or a study. Need to switch to teaching driving “knowledge” rather than driving “skills.”
- Gather better data on teen drivers to improve our ability to address the issue.
- Could work with insurance companies to work on discounts for meeting certain benchmarks. Might be nice to hear from insurance companies.
- Reduce teenage and young adult driving by improving the public transportation system and working with high schools to change policies that allow or encourage teenagers to drive during the school day.
- Providing resources to parents to help them know what type of information/skills/knowledge are important to pass on when training their adolescents to drive. Empowering parents to be better teachers to their teenage drivers.

Sports and Recreation Injuries

- General:
 - Increasing awareness among parents of the frequency of sports and recreation injury, the most common injuries and ways to prevent them.
 - Increasing knowledge of teachers, coaches, schools on what they can do to reduce sports injuries.
- Increasing helmet use:
 - Incentives for helmet purchase
 - Engaging civic groups to do helmet giveaways and safety campaigns locally.
- Increasing mouthguard usage.
- Reducing ACL injuries through training around proper warm-ups for injury prevention (for coaches/in schools).
- Need to be doing something different in our schools around sports and injury prevention. Interested in the idea of Sports Smart Schools.
- Might be an opportunity around sports physicals (which are required for participation in school athletics) to increase awareness and prevention strategies.