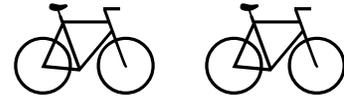


Spectrum of Prevention: A Model for Planning Public Health Interventions

Traumatic Brain Injury Prevention Helmet Use and Bicycle Safety



It has long been recognized that individual education aimed at changing behavior is not enough to effectively prevent injury or illness. Programs also need to address environmental factors that are some of the largest determinants of health status and to actively involve the community in the planning and implementation of activities.

The *Spectrum of Prevention*¹ offers a framework on which to develop multi-level public health programs that integrate individual, professional, organizational and community-wide efforts. The *Spectrum of Prevention* ranges from some of the more familiar interventions such as individual and community education to long-term solutions such as policy and legislative changes. Legislation cannot be enacted and implemented without well-informed, involved, committed and vocal people working together. Each aspect of the *Spectrum of Prevention* is dependent upon and interrelated to one another. By grouping these separate approaches together, a preventive health program builds on the strengths of each and promotes permanent, effective change. The whole becomes greater than the sum of the parts.

The following applies this model to the prevention of disability and death due to bicycle-related traumatic brain injury.

Level 1 Strengthening Individual Knowledge and Skills

Health education and promotion programs are designed to reach individuals at risk of injury and encourage them to change their behavior. Such educational efforts provide information and opportunities to learn new skills and/or change attitudes. Examples include:

- 🚲 A police officer demonstrates how to properly wear a bicycle helmet to a child who was riding his bike down the center of the street and wearing his bicycle helmet tilted towards the back of his head.
- 🚲 A parent teaches his child how to cycle safely and takes his child on several rides to practice.
- 🚲 A parent explains to her child how and why a bicycle helmet protects the head.
- 🚲 An Emergency Department physician speaks to a patient about preventing brain injuries by wearing a bicycle helmet and writes a “prescription” for a helmet.
- 🚲 A fire fighter shows kids how to conduct a safety check on their bicycles using simple tools kept for that purpose at their local fire station.
- 🚲 Two teens from the high school cycling club demonstrate safe cycling skills to sixth grade students.
- 🚲 During a science lesson, a teacher explains how and why a bicycle helmet protects the head.

Level 2 Promoting Community Education

A well-coordinated multidimensional campaign raises community awareness about a particular health issue. Planned events, education and training sessions, posters, and use of mass media deliver a specific, integrated message. These efforts should bring the issue to the attention of the public, highlighting some of the most important aspects of the problem, and generating extensive media coverage to reach a broad audience of citizens and community leaders.

- 🚲 A police department's Community Service Officer demonstrates how to properly fit a bicycle helmet to a group of children and their parents.
- 🚲 A local Park and Recreation Department staff member teaches a class on safe cycling and takes the participants on several rides to practice their skills.
- 🚲 An Emergency Department physician speaks to a community group about preventing brain injuries while having summer fun.
- 🚲 A Health Educator from the public health department makes a presentation to the junior high school cycling club about preventing injuries.
- 🚲 To celebrate Bicycle Safety Month (May) the local safety coalition conducts a song writing contest in which children perform songs about wearing safety equipment and ways to bike and skate safely. Local radio station celebrities, the student council, and others judge the contest and offer prizes and air time on the local radio station for the winners of the competition.
- 🚲 A community coalition promotes and conducts an Incentive Awards Program in collaboration with local law enforcement personnel, to provide coupons and prizes for youth who are wearing helmets and practicing safe cycling behavior.
- 🚲 Local Park and Recreation Department staff, in partnership with the Police Department, establishes an Earn-A-Bike Program that promotes the use of bike helmets and learning safety skills while allowing low-income youth to "earn a bike and helmet."
- 🚲 A *Fun Ride* is planned in conjunction with the community's annual Family Fair Day sponsored by the city in collaboration with the Parks and Recreation Department and the Downtown Merchants' Association. Stations are staffed with volunteers to assure proper helmet fit and to distribute free or low-cost helmets to members of the community. Law enforcement personnel and the police auxiliary teens conduct a bike safety rodeo for the children.

Level 3 Training People Who Can Make A Difference

Any preventive health approach needs the cooperation and aid of the health and safety professionals and other key persons in the community that have regular contact with people at risk and can encourage adoption of healthy behaviors. These committed individuals can help improve community education, change policies within their institutions or organizations and advocate for legislation.

- 🚲 Pediatricians, family practitioners and their staff are trained to demonstrate proper use of bicycle helmets and "prescribe" regular use.
- 🚲 Local law enforcement and school staff personnel are trained to conduct incentive programs for helmet use and safe cycling behavior.
- 🚲 Local service club members and their high school affiliates are trained to conduct bulk helmet purchase campaigns. These events will be repeated annually at each elementary school.

- Ⓢ Local law enforcement personnel are trained to conduct diversion classes for violators of the bicycle-related traffic offenses. Classes include both cyclists and drivers who violate vehicle codes relevant to safe bicycle riding and sharing the road requirements.
- Ⓢ Bicycle sales staffs receive training on the risks of head injuries and the guidelines for properly fitting bicycle helmets in an event co-sponsored by bike dealers, discount stores, and the local safety coalition. “Secret Shoppers” from the local bike club present theater passes to store employees providing safety messages to customers.

Level 4 Fostering Coalitions and Networks

Coalitions combine individual and organizational strengths in new ways. Diverse representation from citizens, civic leaders, community organizations and relevant city and county offices provide valuable input to design successful long-term solutions. Coalitions and other networking activities also lend themselves to maximizing community resources.

- Ⓢ A “Safe Routes to School” program which encourages biking and walking to school for safer neighborhoods and physical activity for children and their parents helps create the support and energy for a local safety coalition.
- Ⓢ Parents, students and administrators form a coalition and campaign to find solutions to the serious traffic problems which exist for students trying to ride their bikes to school who have to cross two very busy four lane roadways.
- Ⓢ A *Safe Communities Coalition* is formed to identify ways to reduce traffic-related injuries in the community and to apply for money from the State Office of Traffic Safety and the State Department of Health Services.
- Ⓢ Members of a local Metropolitan Planning Organization conduct a local “Give Us 5 Campaign” to mobilize the community to access the funds available for bike safety education through the Transportation Development Act available to County Public Works Departments.

Level 5 Changing Organizational Policies and Practices

Established organizations can directly change their own policies, procedures and practices that affect the health and safety of their members/clients.

- Ⓢ After training, school-crossing guards provide brief educational messages promoting safe cycling and assist in enforcing the school’s helmet policy.
- Ⓢ Staff and volunteers who conduct the annual “Bikes for Tykes” holiday campaign decide to make sure that a helmet is given with every bike along with “easy to read” instructions on proper helmet fit. Volunteers are trained and available to individually size the bikes and helmets to each child and provide simple safety instructions for parents.
- Ⓢ City and School District leadership adopt the policy that all school crossing guards are to be trained and authorized to report vehicles and unsafe conditions that place children walking and biking to school at risk. Violators receive a warning letter from the city. A second violation results in a \$500 fine.
- Ⓢ A school principal collaborates with the parent/teacher organization, local law enforcement, and city administration to adopt a traffic-calming program. Several low-cost, simple strategies during the 30 minutes before and after school are implemented to minimize the risk of injury for the students arriving at the adjacent elementary and junior high schools.
- Ⓢ A local elementary school adopts and enforces a mandatory bike helmet use policy for students who ride to school.

Level 6 **Influencing Policy and Legislation**

Legislating policy represents perhaps the strongest and broadest means of bringing about environmental changes to decrease the incidence of injury, disability and death. Recent data indicate that mandatory motorcycle helmet laws dramatically reduce the number of serious and fatal head injuries and research clearly indicates the effectiveness of bicycle helmet use in reducing the number and severity of head injuries.

- 🚲 Concerned parents work with the school district to adopt, implement and enforce a helmet use policy and initiate a helmet distribution program.
- 🚲 Community members work with city administration and law enforcement staff to establish and enforce a universal (all ages) helmet use ordinance in all community parks and on city bike trails.
- 🚲 Injury prevention advocates work to pass state legislation requiring all persons under the age of 18 to wear helmets when cycling.
- 🚲 Motivated by a desire to have adults model the behaviors expected of children, the *Safe Kids Coalitions* advocate passing state legislation creating a universal helmet law for all cyclists.

02/16/01 For information or suggestions please contact Valodi Foster at (916) 324-3286 or vfoster@dhs.ca.gov

¹ The *Spectrum of Prevention* model was created by Larry Cohen, M.S.W. while at Contra Costa County Health Services Department and is based on the work of Dr. Marshall Swift in developmental disability prevention at Hahnemann College in Philadelphia, Pennsylvania. Mr. Cohen now continues the application of this model in his work as Director of the Prevention Institute in Berkeley, California. Mr. Cohen may be reached at larry@preventioninstitute.org.

Cohen, L. and Swift, S. (1999) The Spectrum of prevention: developing a comprehensive approach to injury prevention. *Injury Prevention*; 5:203-207.

This *Spectrum of Prevention* example was created by the staff of the State and Local Injury Control Section of the California Department of Health Services.