

Traumatic
Brain Injury &
Concussion

Michigan Statistics

During the 2013-14 ski season, MI ranked second in the nation for number of operating ski areas across the state with 44, second only to New York.²

★

In 2009, the University of Michigan implemented a program called “Protect UR Brain— Wear a Helmet on the Slopes” at four ski resorts. Helmets were donated to reduce helmet rental fees, and U-M designed posters to educate the public and increase awareness of TBIs.⁵

Data Sources:

1. Consumer Product Safety Commission.
2. National Ski Areas Association.
3. Graves JM, Whitehill JM, Stream JO, Vavilala MS, Rivara FP. Emergency department reported head injuries from skiing and snowboarding among children and adolescents, 1996-2010. *Inj Prev.* 2013;19(6):399-404.
4. Xiang H, Stallones L, Smith GA. Down-hill skiing injury fatalities among children. *Inj Prev.* 2004;10(2):99-102.
5. University of Michigan C.S. Mott Children's Hospital.

www.injurycenter.umich.edu

734-232-2105

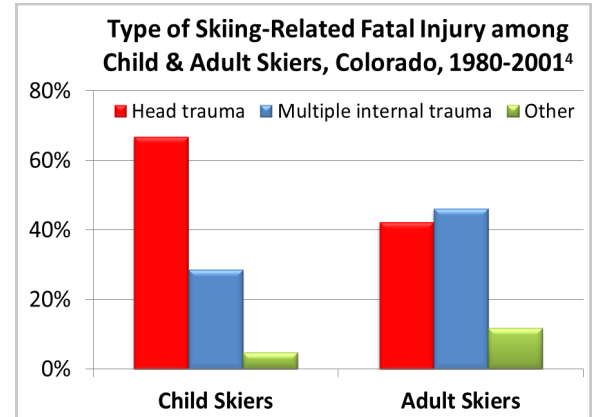
UMInjuryCenter@umich.edu

A Helmet Loaner Program for Ski and Snowboarders

What Is the Problem?

United States statistics:

- Head injury is the leading cause of fatality, hospital admission, and serious injury for skiers and snowboarders.¹
- During the 2013-14 ski season, there were 9.6 million active skiers and snowboarders.²
- Based on 56.5 million visits to resorts, skiers/boarders suffered catastrophic injuries (e.g., paralysis, serious head injury) at a rate of 0.92 injuries per one million visits.²
- More than half of those that suffered a catastrophic injury in 2013-14 were not helmeted.²
- Skiers and snowboarders age 18 to 24 are the least likely age group to wear a helmet (62%).²
- From 1996 to 2010, an estimated 78,538 snow sports-related head injuries among children and adolescents were treated in U.S. emergency departments and more than 77% were TBIs.³



What Is One Solution?

Research indicates that helmets can reduce the risk of head injury among skiers and snowboarders by up to 60%, yet many continue the sport unprotected.^a In Colorado, a community-based helmet loaner program was developed to increase helmet use among skiers and snowboarders.

Program Components

- Initiated social-marketing campaign to a) increase awareness of traumatic brain injury (TBI) and the severity of such an injury; b) inform the public that wearing a helmet can help prevent a TBI; and c) introduce and promote the helmet loaner program.^b
- Developed in cooperation with a ski outfitting company, the program offered anyone renting from a participating store a free loaner helmet to use for the duration of their rental period.^b
- Distributed free helmets to ski patrollers and instructors at several local resorts.^b

Evaluation

A cross-sectional comparison was used to evaluate the program's effect on helmet rental rate and use of helmets at study stores compared to control stores. An observational study was conducted each season to evaluate the number of skiers and snowboarders wearing helmets on the slopes.^b

Evidence of Effectiveness

- During the first season, 70% of skiers and 90% of boarders accepted the free loaner helmet.^b
- Upon returning the free loaner helmet at the end of their rental period, 97% of skiers and 89% of boarders, self-reported they wore the helmet on the slopes.^b
- The mean percent of skiers and snowboarders observed wearing helmets on the slopes increased each season. In 1998-1999, 7.7% of skiers and 24.2% of snowboarders were observed wearing helmets compared to 20.3% of skiers and 44.2% of snowboarders in 2001-2002.^b

References

- a. Cusimano MD, Kwok J. The effectiveness of helmet wear in skiers and snowboarders: A systematic review. *Br J Sports Med.* 2010;44(11):781-786.
- b. Levy AS, Hawkes AP, Rossie GV. Helmets for skiers and snowboarders: An injury prevention program. *Health Promot Pract.* 2007;8(3):257-265.