

Operation Headway- Noggin' Knowledge: A Comprehensive Bike Helmet Promotion Program

Peggy's Cove, Nova Scotia
Image courtesy of Lynda Smith

West Point, Prince Edward Island
Image courtesy of John Sylvester, johnsylvester.com

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Description of project:

Operation Headway is a multi-partner program that combines enforcement of helmet legislation, education and economic penalty for not wearing helmets as well as rewards for wearing helmets. It was developed in Nova Scotia (NS), with a population of 940,000, in 2004, with collaboration between Halifax Police, QEII Neurosurgery and The Brain Injury Association of NS (BIANS). Nova Scotia has run the program eight times from 2004 to 2009. In 2009, Prince Edward Island (PEI), with a population of 143,000, ran the program in two areas of the province.

The program relies heavily on the commitment of both Municipal Police and Royal Canadian Mounted Police (RCMP) to actively enforce the provincial helmet legislation. When riders are ticketed by police, they are given the option to either pay the fine or to attend a one-time only education session called Noggin' Knowledge. Police also had the option to give out rewards for persons wearing helmets and provide helmets gift cards for children and adults who could not afford helmets. Bike helmet observations studies were conducted to monitor changes in rates of helmet use.

Program Goal:

To reduce bike related head injuries by increasing bike helmet use among all ages

Objectives:

- Increase awareness of provincial bike helmet legislation
- Increase enforcement of helmet legislation
- Increase compliance with helmet legislation
- Increase awareness of effects of bike related head injuries
- Sustain helmet use by continued enforcement and education

Methodology

- Reward people wearing helmets
- Ticket those not wearing a helmets
- Provide "Noggin Knowledge" a diversion program versus paying fine
- Conduct media campaigns
- Conduct helmet observation studies pre and post increased enforcement to monitor changes in helmet compliance
- Administer questionnaires pre and post Noggin' Knowledge to assess changes in knowledge levels and intention to change behaviour

Helmet Use Results in Nova Scotia and Prince Edward Island

* indicates statistically significant

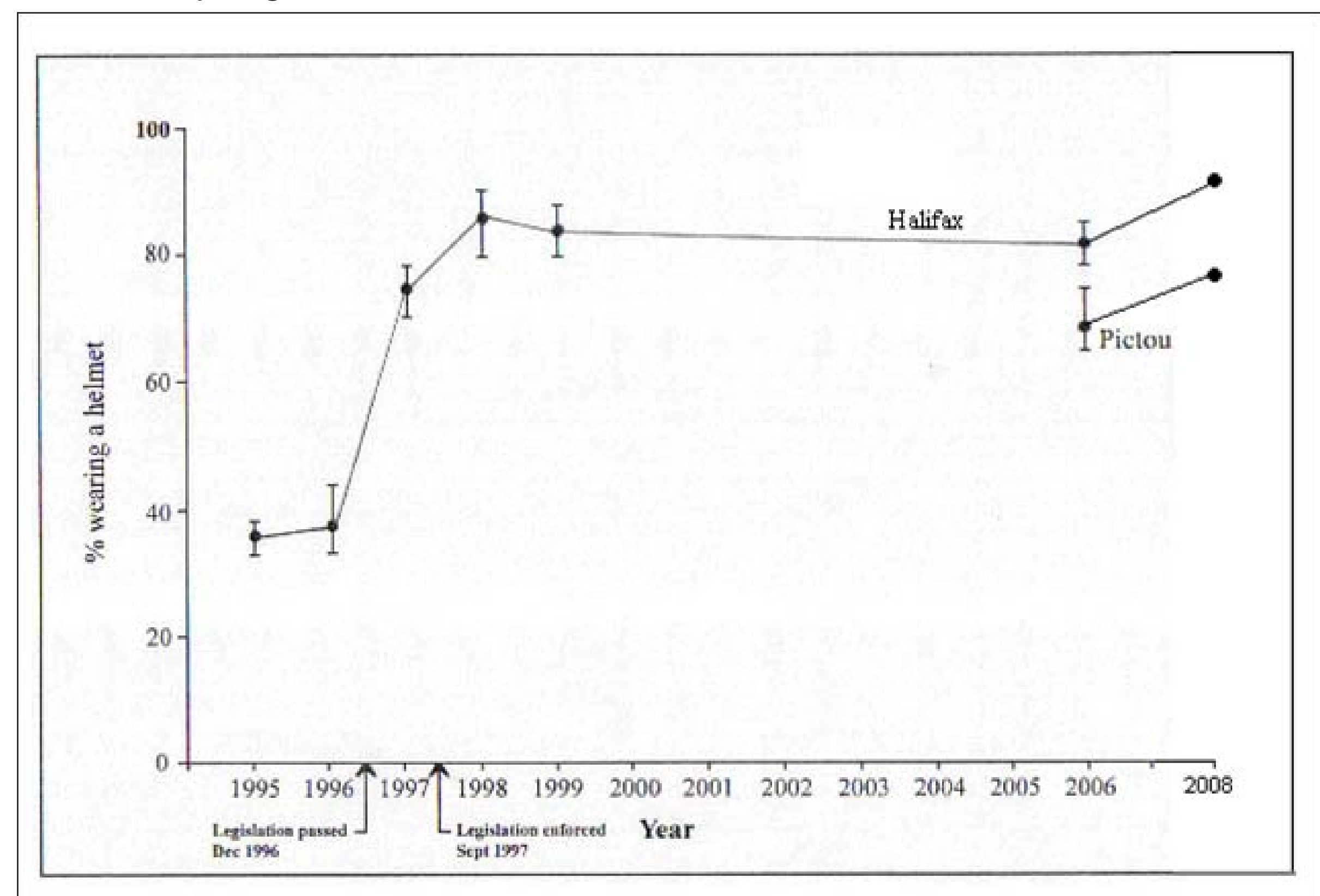


Figure 1. Helmet use 1995-2008 in Nova Scotia

Operation Headway and Noggin Knowledge in Halifax and Pictou

- In Halifax, NS from 1995-2008 helmet use rates have increased from 35.9% to 92%*
- Legislation was implemented in December 1996, with baseline helmet rates at 37.7%
- Enforcement in September 1997 yielded a sharp rise in helmet rates to 75.3% and increased to 85.5% in 1998 and 83.8% in 1999*
- Enforcement and education continued in Halifax throughout 2004 to 2008 with helmet use rates increasing from 82% (2006) to 92% (2008)*

Research study of helmet use for Halifax (urban) versus Pictou (rural)

- Halifax 2006-2008 post enforcement and education; helmet use went from 82 to 92%* versus Pictou 2006-2008 helmet use 69% to 77% *
- The significant increase in helmet use in Pictou from 69% to 77% indicates that enforcement and education may contribute to higher helmet rates (especially for children*)
- Higher helmet use in teens in Halifax 59% (2006) to 81% (2008) versus Pictou teens 32% (2006) to 38% (2008) suggests that targeted enforcement and education is effective
- This research has found that legislation coupled with enforcement and regular education has increased helmet use for up to 2 years post legislation in Halifax, Nova Scotia (Leblanc *et al.* 2002)
- The increase in helmet use in Halifax, currently at 92%, indicates that ongoing enforcement and education is effective for all age groups

Results of pre and post Operation Headway, Noggin Knowledge in Prince Edward Island 2009

- The overall rate of helmet use increased from 67.8% to 69.9%
- The rate of helmet use by males increased from 62.1% to 67.4%*
- The rate of helmet use by females decreased slightly from 78.4 %to 75.8%
- Adolescents made the biggest gains in helmet use rates from 47.8% to 57.8%*
- Adults increased from 70.8% to 75%
- Children's helmet use rates dropped from 84.6% to 75% *
- Lone cyclists had increased helmet use from 58.2% to 68.8%*
- Riders in parks increased their helmet use from 68.5% to 79.3%*
- Trail riders had the highest wearing rates 79.3% to 81.3%
- Summerside had the greatest increase in helmet use from 54.4% to 65.8%
- Charlottetown's helmet rates went from 67.7% to 70.1%



Education

Before, during and after the enforcement period, education and helmet awareness events including public service announcements, media releases, bike rodeos, TV panel discussions, health fairs, police week events and school presentations took place in the community.

Noggin' Knowledge

- The main educational component that takes place after the designated enforcement period
- The session is two hours and delivers a strong message
- It is graphic and hard-hitting, with the goal of understanding the "why" to wearing a helmet and understanding the significance of brain injury to one's life
- It is designed to teach individuals the risks associated with not wearing a helmet as well as to encourage them to comply with helmet safety laws and rules of the road
- Tickets are withdrawn after attending Noggin' Knowledge, a one time event where offenders only have one ticket withdrawn

Results of education program: Noggin' Knowledge in Nova Scotia and Prince Edward Island

In both provinces, increased levels of knowledge from pre to post testing of the Noggin' Knowledge session for 10 questions all moved in a positive direction.

Nova Scotia Results:

Questionnaires also revealed that:

Halifax 2004 n= 264

- 78% (am session) and 76% (pm session) learned something new
- 62% (am session) and 65% (pm session) reported they will wear a helmet now

Halifax 2006 n= 75

- 78% learned something new
- 73% will wear helmet now

Halifax 2007 n=70

- 84% learned something new
- 91% will wear a helmet now
- 87% would recommend program
- 81% indicated an increase in level of knowledge of what paramedics do at the scene of a head injury

Participants particularly like learning and seeing the reality of brain injury as demonstrated by the paramedic and neurosurgeon educational sessions.

Pictou 2008 n=15

- 67% will now wear a helmet
- 73% feel differently about importance of helmet
- 73% would recommend program



Prince Edward Island Results:

Questionnaires also revealed that:

PEI 2009 n=50

- 72% learned something new
- 80 % will wear a helmet now
- 80% would recommend this program to others

Feedback from participants noted that the presentation from the families affected by neuro-trauma, as well as stories from the neurosurgeon were highly impactful.

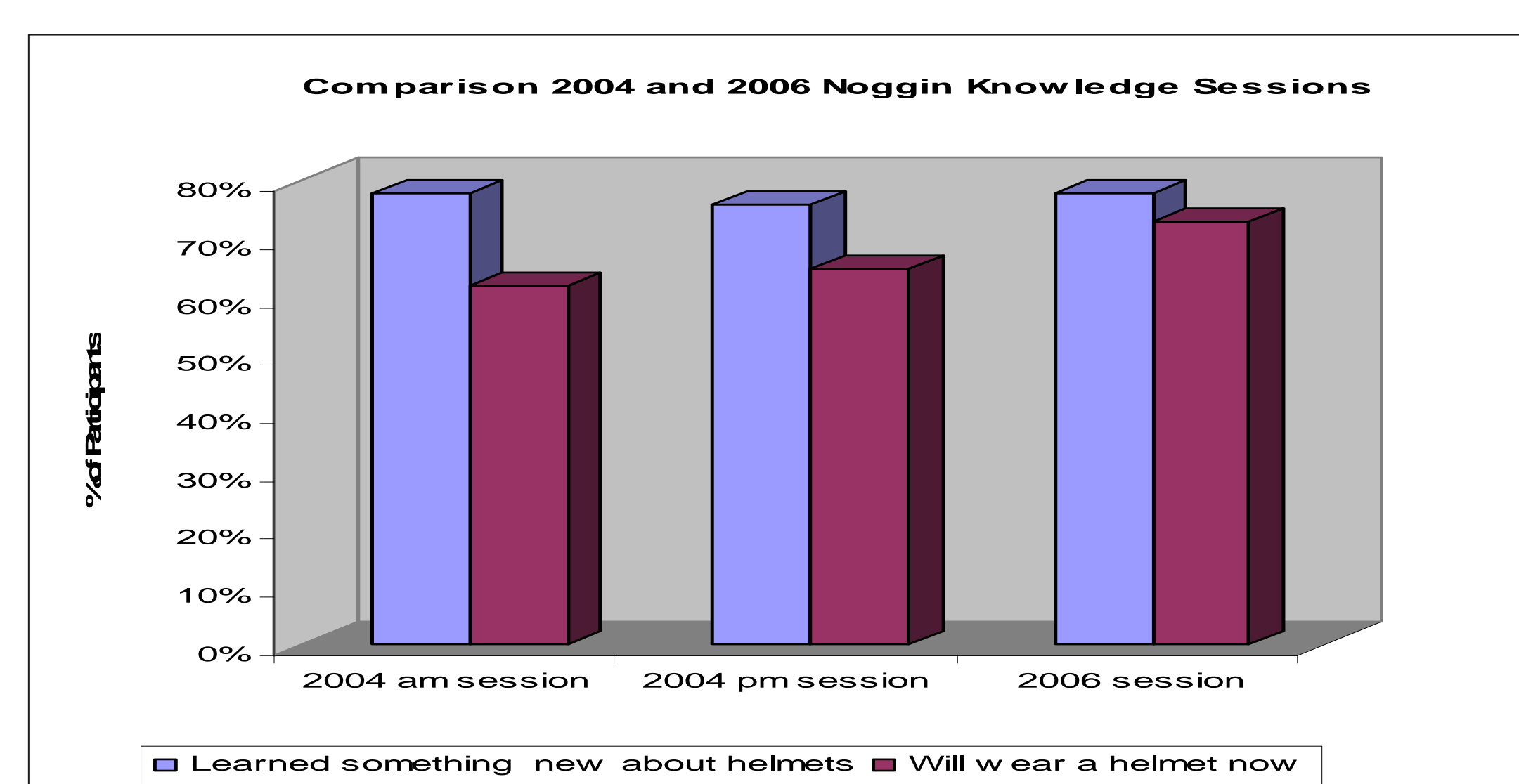


Figure 2. Comparison of 2004 to 2006 Noggin Knowledge Session in Nova Scotia

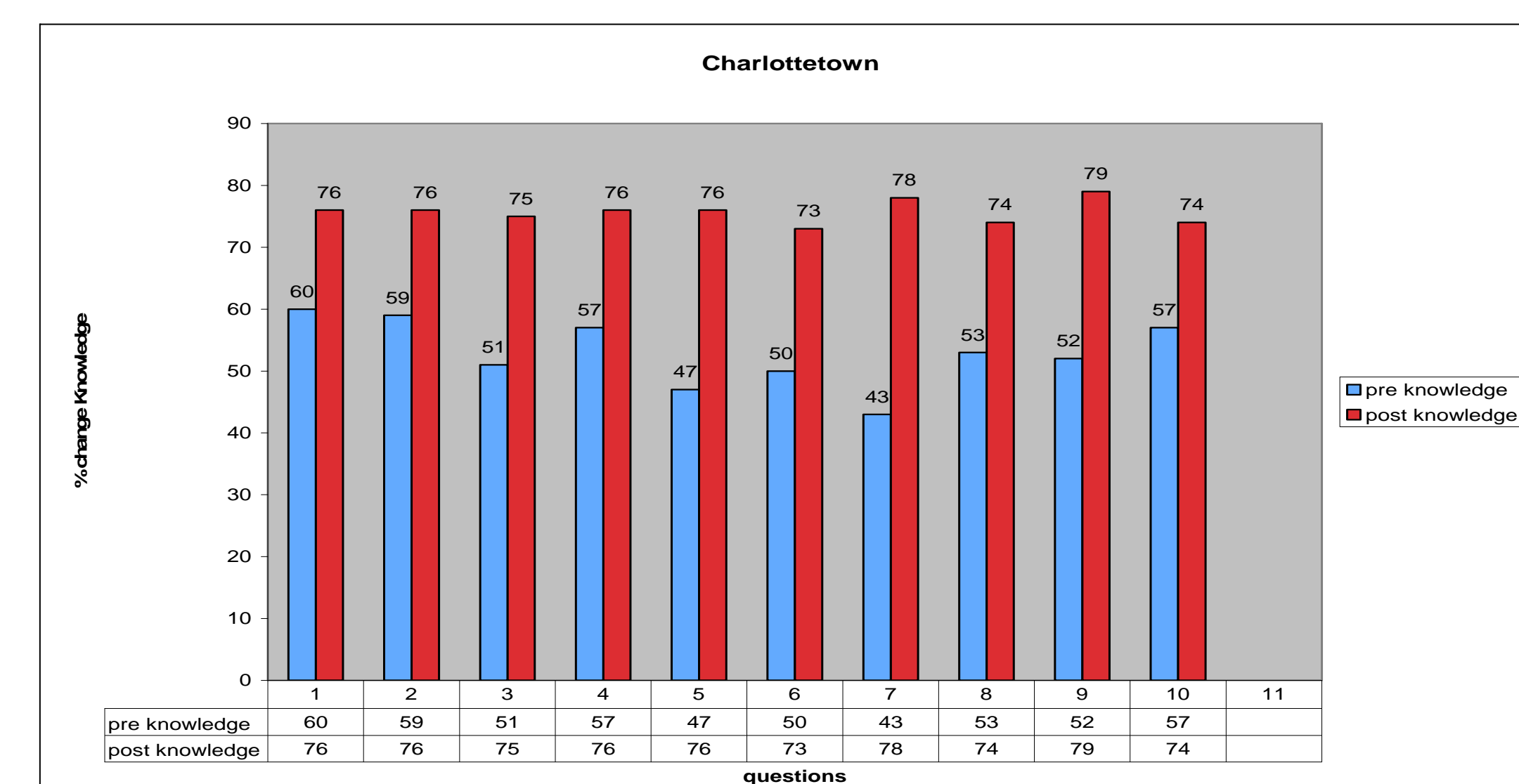


Figure 3. 2009 Pre and Post test results following Noggin' Knowledge in Charlottetown, PEI

Environment and Media Campaign

Nova Scotia: media coverage of Operation Headway programs involved media releases, print and television coverage and various helmet promotion events such as police bike rodeos and school presentations. Halifax is developing more and more bike lanes in any upgrades or new construction. Pictou is now implementing a comprehensive bikeways plan that includes designated trails, share the road signs, and bike lanes.

Prince Edward Island: media coverage was achieved via print, radio and TV for Operation Headway over the course of the summer. Media and community interest peaked when a family came forward to tell their story of their son who suffered a head injury while biking and remained in a coma. Prince Edward Island now has increased interest in bike lanes in the capital city and some lanes have already been put in place.



Partnerships

Enactment of legislation, education, enforcement and economic penalty need to all occur collaboratively to deliver injury prevention programs successfully. Once Police are willing to enforce the law and participate in the program, true success comes from program coordination through community partnerships.

Nova Scotia Partners and Sponsors:

- RCMP and Municipal Police
- BIANS (Halifax and Valley chapters)
- CDHA Neurosurgery
- Nova Scotia Department of Health Promotion and Protection*
- Helmet Safety Action Committee
- IWK Child Safety Link
- PCHA Emergency medicine
- Emergency Health Services Nova Scotia
- Canadian Paraplegic Association
- ThinkFirst Nova Scotia and Think First Canada/Aviva Insurance
- Nova Scotia Trauma Advisory Council
- Dalhousie University

* Primary sponsors

Prince Edward Island Partners and Sponsors:

- Municipal Police, (RCMP) as of 2010
- Island Network for Injury Prevention (INIP)
- Brain Injury Coalition of Prince Edward Island (BICPEI)
- ThinkFirst PEI and ThinkFirst Canada
- CDHA Neurosurgery (Halifax)
- Cycle PEI
- Recreation PEI
- Medical Society of PEI
- Island EMS
- Island Trails
- Dept of Transportation and Public Works
- Dr David Wong Research Foundation
- Dalhousie University
- OK Tire, Island Towing, Island EMS, Zellers, Psychological Association of PEI, Mac Queen's Bike Shop, McDonalds, Dairy Queen, Cows, Frosty Treat, Wendy's, Tim Hortons' and Burger King, Malpeque Bay Credit Union

Conclusions

Operation Headway, a comprehensive bike helmet promotion program which increases police enforcement of helmet laws has shown increased helmet use in Nova Scotia and Prince Edward Island. The Noggin' Knowledge education program has produced increased knowledge levels and awareness about helmets and prevention of brain injuries. Participants have indicated a greater commitment to wearing helmets after attending Noggin' Knowledge.

Nova Scotia's Operation Headway has been supporting and encouraging capacity building for communities to begin their own programs since 2004. The success of Operation Headway in Nova Scotia has had demonstrable effects by enabling other communities/provinces to utilize the program design, concepts and materials to make it specific to their own region. This has been demonstrated in the spread of the program throughout Nova Scotia. After one year of hosting a program, PEI has been able to expand the program province wide in 2010. The ease of program delivery and the flexibility to run as a low or high cost initiative, makes the program very adaptable for many communities. ThinkFirst Canada is currently considering supporting the expansion of the Operation Headway Program for national distribution.



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