

Chapter 11

Bicycle Helmet Standards and Hockey Helmet Regulations: Two Approaches to Safety Protection

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Introduction

Both hockey players and bicyclists engage in activities that can be dangerous and even life-threatening. For self-evident reasons, the heads of hockey players and cyclists are particularly vulnerable to injury. Governments, standards organizations and sports associations have put in place a combination of approaches which are intended to ensure that hockey and bicycle helmets meet certain standards, and that hockey players and cyclists wear these helmets. Yet the approaches adopted vary significantly from one context to the other. Hockey helmets in Canada are required by federal law¹ to meet certain design/performance standards, whereas there is no similar legislated performance requirement for bicycle helmets. At the same time, there is no federal and only one provincial law (in Quebec)² requiring the use of hockey helmets, whereas there are several provincial and municipal laws requiring bicycle helmet use.³

The purpose of this chapter is to explore and describe the rule-making and implementation regimes in place for hockey and bicycle helmets, with a view to understanding why different approaches have been adopted for seemingly similar situations. Particular attention is paid to the role played by standards associations, in order to illustrate how these bodies operate in practice. Analysis suggests that a range of factors help explain why different approaches have been adopted. These include:

- *The time period when the issue first arose.* From the 1960s to the present, the receptivity of governments towards using conventional command-penalty regulations has decreased, shaped by fiscal constraints and a better understanding of the strengths and weaknesses of regulation and its alternatives. The issue of the need for hockey helmets first arose in the 1960s and 1970s when governments arguably were more willing to use regulations to address many societal problems. In contrast, bicycle helmet safety became an issue in the 1980s and 1990s, when a more restrained approach to the use of regulations predominated.
- *Varying marketplace conditions.* These include the existence in the marketplace of products of substandard quality, the number and size of manufacturers, the mix of domestic and imported products, the existence of competing standards

1. *Hazardous Products Act*, R.S.C. 1985, c. H-3, s. 43.

2. *An Act Respecting Safety in Sports*, R.S.Q., c. S-3.1.

3. Provinces with bicycle helmet laws include British Columbia (see *Motor Vehicle Act*, R.S.B.C. 1996, c. 318, s. 184); Nova Scotia (see *Motor Vehicle Act*, R.S.N.S. 1989, c. 293, s. 170A). Municipalities with bicycle helmet by-laws include St. John's and Mount Pearl, Newfoundland and Labrador.

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already in the marketplace, and the perceived seriousness of problems and the need for immediate responses.

- *The role and ability of “user” associations to compel conduct on behalf of members.* The Canadian Hockey Association (CHA),⁴ which represents a substantial number of amateur hockey players in Canada, was in a position to require the use of helmets for its members, to support use of a legislated standard, and to be held liable should the helmets not adequately protect their members. For a variety of reasons there is no cyclists’ association capable of imposing similar requirements on individual bicyclists.
- *External regulatory conditions.* The existence of regulations and standards in other jurisdictions can assist Canada in adopting standards, and developing approaches to problems. The existence of free trade agreements, with their restrictions on trade barriers, can also play a role.
- *Evolving role of standards associations.* Over time, the profile and credibility of standards produced by standards organizations has increased. Such standards now often receive the respect of industry, consumers and government, thus making it increasingly acceptable to use standards produced by standards organizations as instruments of public policy.

While empirical data demonstrating costs and benefits are hard to come by, available evidence suggests that the voluntary approach in place for bicycle helmets has been no less successful than hockey helmet regulations in preventing or reducing head injuries. As a result, a good argument can be made that, if the issue of the need for hockey helmet performance regulations had arisen not in the 1960s and 1970s, but rather at the same time as the need for bicycle helmet performance regulations (in the 1980s, when fiscal constraints on government were more apparent), it is quite possible that design/performance standards for the manufacture of *both* hockey helmets and cycling helmets would have been addressed through non-legislative means.

Before beginning the comparative analysis of the hockey and bicycle helmet standards approaches, it is perhaps worth emphasizing the distinction between design/performance standards and rules respecting use. The best standard for helmets in the world, whether enshrined in law or purely voluntary, is no guarantee of reduced injuries if no one uses the helmets that meet those standards. It is clear, then, that a comprehensive approach to sport safety necessitates both product standards and rules respecting use. The focus of analysis in this chapter is an examination of the standards applying to the design and performance of helmets. There is supplementary discussion of the approaches used to encourage helmet use, which range from legislation (provincial and municipal), to membership requirements set by associations (e.g. the CHA), to civil liability and to education. It is interesting to note that while regulations have been promulgated concerning the safety of hockey helmets, the use of these helmets is stimulated through non-legislated CHA rules, except in Quebec where use requirements are set out in law. In contrast, there are no laws in Canada requiring manufacturers of bicycle helmets to meet certain standards (although there are provincial and municipal

4. The Canadian Amateur Hockey Association changed its name in 1994 to the Canadian Hockey Association (CHA). To avoid confusion, the organization is referred to as the CHA throughout this paper.

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laws requiring that cyclists wear helmets which meet those standards). This is explained in greater detail in the body of the chapter.

Hockey Helmets

Background

The Canadian Hockey Association requested that the Canadian Standards Association (CSA) develop a standard for hockey helmets in 1969. The CHA was concerned about the number of head injuries, some resulting in death, experienced by young amateur hockey players. The CHA thought that the preparation of a nationally recognized consensus standard on hockey helmets, backed up by a program of testing and certification, would give the players better protection and reduce injuries. The CHA had previously made it mandatory that all players in CHA league games wear helmets, but there was a need to specify the quality of the helmets.⁵

In 1974, following the development of a hockey helmet standard by the CSA, the Product Safety Branch of the federal Department of Consumer and Corporate Affairs amended the *Hazardous Products Act* to require that all hockey helmets sold in Canada conform to certain provisions of the CSA's ice hockey helmet standard.⁶ There was no previous regulation of helmets, and accident statistics, particularly relating to young players, were sufficient to persuade the government that action was necessary to ban helmets that did not meet the CSA standard (and might therefore give a false sense of security).⁷ After the standard was published the CHA required all amateur hockey players and referees to wear CSA-certified ice hockey helmets. Since the CHA governs the majority of formal hockey leagues in the country, this requirement went a long way toward achieving the objective of all players wearing helmets at all times.⁸

There have been four revisions to the standard since 1973, and three of these have resulted in corresponding amendments to the regulations. Changes made to the *Hazardous Products Act* regulations in June 1987 now allow the referential incorporation of a standard "as amended from time to time" so that it is no longer necessary to amend

5. The CHA rules with regard to helmets were introduced in stages. In 1965 helmets were required for all players in the juvenile and lower age groups. In 1966 this rule was expanded to make helmet use mandatory for all players in age groups other than Junior A. Helmet use was made mandatory for Junior A players in 1971. Correspondence with Dave Baker, CHA Manager of Officiating, June 1997.

6. Canadian Standards Association, *Ice Hockey Helmet Standard*, CAN/CSA Z262.1-M1975 (Toronto: CSA, 1975). Note that the Product Safety Branch was later transferred to Health Canada.

7. An example of one type of problem facing consumers of hockey equipment occurred when a Canadian supermarket chain advertised a helmet in the *Toronto Star* on November 18, 1972, as having "approved safety design." In fact, no organization had approved the hockey helmet. The supermarket chain was subsequently fined for misleading advertising. E. Amirault and M. Archer, *Canadian Business Law* (Toronto: Methuen Publications, 1988), p. 512.

8. It is important to note that while most organized hockey is governed by the CHA, there are many unorganized hockey games played in Canada. These range from "shinny" games on ponds and outdoor rinks to industrial leagues which operate outside the CHA. Although some industrial leagues and some arenas require that a CSA-approved helmet be worn, enforcement is often lax. The bottom line is that every year thousands of hockey games are played without the required use of a helmet.

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the regulations each time the standard is updated, an important advantage of the “incorporated standard” approach.⁹

It appears that there were (and are) only a few Canadian companies making hockey helmets, and that even prior to the incorporation of the CSA standard in 1973 the majority of their products met the standard. The problem had more to do with imported products, which were of variable quality — variances that were not always obvious to consumers. Nowadays, Canadian consumers can be reasonably confident that all hockey helmets on sale are sufficiently robust to meet the rigours of the game. According to government, standards organization and hockey association officials interviewed in the preparation of this chapter, the structure of the Canadian industry did not change as a result of introducing the regulation, but the number of non-compliant imported products was significantly reduced.¹⁰

Process

The federal government’s Product Safety Branch had the choice of writing its own standard, or using the standard that was being developed by CSA. Up to that time, all the *Hazardous Products Regulations* had been written by government after consultation with industry and consumer groups. Previous regulations had sometimes incorporated parts of existing standards; however, it was something of an innovation for government to approach CSA with a view to referencing a complete standard.

CSA derives its income from several sources, primarily through the testing of products, as well as the sale of CSA standards materials and logos; however, standards are occasionally financed by a one-time grant from an interested party. The standards development process begins when CSA receives a request for a new standard.¹¹ This request is evaluated based on various criteria, including the level of support for the proposed standard.¹² If CSA accepts the request to develop a new standard, it informs the public of this decision and proceeds to develop the standard through a Technical Committee. The Technical Committee is composed of a “matrix” of constituents with diverse viewpoints. Typically, a matrix includes representatives from academia, the manufacturing sector, the regulatory sector and consumers.¹³ The Technical Committee, taking into account relevant national and international standards, prepares a draft standard. This standard is debated by the members of the Technical Committee. Once a consensus is reached in regard to the content of the draft standard, it is put to a vote for

9. *Hazardous Products (Ice Hockey Helmets) Regulations*, SOR/89-257, s. 3. It is important to note that the referential incorporation of a standard set by a non-governmental body might be viewed as undesirable by some, since it constitutes a delegation of “law-making” powers from an elected body to a non-elected body. Indeed, some might suggest that a delegation of this sort may be illegal, since Parliament may not have the constitutional power to delegate “law-making” ability to non-elected bodies.

10. We have been unable to find statistics regarding foreign/domestic market share to support this observation.

11. Canadian Standards Association, *CSA Directives and Guidelines Governing Standardization, Part 2: Development Process*, CSA-SDP-2.2-98 (Toronto: CSA, 1998), Clauses 4.1.2 and 4.1.3.

12. *Ibid.*, Clause 4.3.

13. Canadian Standards Association, *CSA Directives and Guidelines Governing Standardization, Part 1: Participants and Organizational Structure*, CSA-SDP-2.1-99 (Toronto: CSA, 1999), Clause 3.3.

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approval by the Technical Committee. Generally, the affirmative votes must constitute at least 50 percent of the total voting membership and at least two thirds of the votes actually cast.¹⁴ CSA standards have a built-in sunset clause requiring that the standards be reviewed by the Technical Committee every five years.¹⁵ CSA standards that are to be considered for acceptance as national standards are then reviewed and approved by the Standards Council of Canada.¹⁶

The 1983 revision of the hockey helmet standard followed the criteria established by the Standards Council of Canada for National Standards of Canada and it was then approved as National Standard CAN3-Z262.1-M83. The Technical Committee participants were selected¹⁷ and the process financed by CSA according to its usual procedures; as well, the development of the consensus standard was in accordance with Standards Council of Canada guidelines. Earlier versions of the standard had not been submitted for approval as National Standards, but were developed in accordance with CSA policies, which differ only marginally from the Standards Council of Canada criteria. The average time for the development of a CSA standard is approximately 18 months, but revisions usually take less time than that.

Standard Components

The CSA hockey helmet standard is based on three types of tests: impact, penetration and roll-off. The impact test requires that a helmet be attached to a head form, which is then dropped onto a flat steel slab.¹⁸ The penetration test ensures that ventilation holes in the helmet are not too large and the roll-off test determines whether the helmet will come loose in a collision.¹⁹ Because the CSA standard for hockey helmets has been incorporated into legislation, it has the force of law. The penalties for non-compliance as set out in the *Hazardous Products Act* include a fine of up to \$1 million and/or imprisonment for two years.²⁰

Implementation

The hockey helmet regulations, aided by the CHA rules, are among the most widely known requirements under the *Hazardous Products Act*. Perhaps because of this there have been no public awareness campaigns for many years, and even the periodic

14. Canadian Standards Association (footnote 11), Clause 9.

15. *Ibid.*, Clause 12.

16. The Standard Council of Canada is a federal Crown corporation that oversees and encourages the development and use of national standards in Canada. See Web site, <www.scc.ca>.

17. The 1983 amendments to Z262.1 were developed and approved by the CSA Technical Committee on Protective Equipment for Ice Hockey and Box Lacrosse Players. Membership of the Committee included representatives from the CHA, the Canadian Lacrosse Association, the Canadian Ball Hockey Association Inc., the American Society for Testing and Materials, the Canadian Dental Association, the Canadian Medical Association, the federal Department of Consumer and Corporate Affairs and all levels of industry.

18. CAN/CSA Z262.1 1-M90, *Ice Hockey Helmets*, section 6.2.

19. *Ibid.*, ss. 6.3 and 6.4.

20. *Hazardous Products Act*, op. cit., section 28(1)(b).

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reminders from the CHA to its members have now ceased. Although Health Canada (through its Product Safety Bureau) has inspectors across the country to administer the law, enforcement actions are very rare, and relate primarily to uncertified imported products — usually initiated as the result of complaints by consumers or competitors. Official sampling and testing of products may follow, with actions taken on non-complying products ranging from negotiation for a voluntary product withdrawal from the market to prosecution. According to discussions with Health Canada officials, there has never been a prosecution of a helmet manufacturer and there have been very few instances of non-compliance. Even in these few cases, prosecution was unnecessary, as the manufacturer was persuaded to withdraw or modify the helmet.²¹

Head injuries to hockey players have markedly decreased and nowadays injuries sustained by players hitting the boards head first are frequently to the neck rather than the skull.²² Those involved in hockey suggest that the wearing of helmets leads to players taking greater risks.²³ Overall, however, the benefits of allowing for sale only helmets that meet the standard are manifest.²⁴

The fact that the CHA requires the use of CSA-certified helmets is an important factor in the success of the regulations. By compelling its players to wear the CSA-approved helmets, the CHA created an enormous market of captive buyers. The CHA rule was buttressed in Quebec by provincial legislation that requires the use of helmets in every game of hockey played in an arena in the province, whether sanctioned by the CHA or not.²⁵

Foreign hockey players who are under the jurisdiction of other hockey federations, such as USA Hockey or the International Ice Hockey Federation, must comply with the rules of their own governing body.²⁶ In the case of American teams this means that their players must wear helmets approved by the Hockey Equipment Certification Council, which uses the American Society for Testing and Materials (ASTM) hockey helmet standard.²⁷

21. Interview with Georges Desbarats, Health Canada, Senior Project Officer, Product Safety Bureau, Mechanical and Electric Hazards Division, June 1996.

22. Interview with Glen McCurdy, CHA, Manager Health Benefit Program, July 1996. These sentiments are echoed by Dr. Tom Pashby, an ophthalmologist who is recognized as one of the major advocates for broader helmet use. (Interview, July 1996.)

23. This according to Glen McCurdy, *ibid.* This phenomenon, known as the “offsetting behaviour hypothesis,” has been observed in other fields. For example, researchers have determined that drivers of cars equipped with airbags drive more aggressively than drivers of non-airbag-equipped cars. See S. Peterson and G. Hoffer, “Are Drivers of Air-Bag Equipped Cars More Aggressive? A Test of the Offsetting Behavior Hypothesis,” *Journal of Law and Economics* 38:2 (1995), pp. 251–264.

24. Dr. Pashby (footnote 22) suggests that the primary reason players are taking greater risks is coaching style combined with a feeling of invincibility.

25. *An Act Respecting Safety in Sports*, *op. cit.* The law also requires the use of a CSA-approved face protector and a neck protector approved by the *Bureau de normalisation du Québec*, a Quebec-based standards organization. The law exempts professional and major-junior hockey.

26. Dave Baker (footnote 5).

27. The current version of the standard is published as ASTM, *Standard F1045-95: Ice Hockey Helmets* (West Conshohocken, Pa.: ASTM, 2001).

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Measuring the true costs and benefits of codes and regulations is not simple. In the case of hockey helmets, for instance, the costs of medical treatments that have been avoided could be included as a benefit. The costs for the development of, and revisions to, the regulation are long hidden in government accounts. One estimate for the cost of development of the original standard is \$17,275.²⁸ It is difficult to isolate the costs of implementing the hockey helmets regulation from the general administration costs of the *Hazardous Products Act*. In addition to the costs incurred by the government, the requirement that all helmets comply with the CSA standard increases the costs to manufacturers — a cost that is ultimately passed on to the consumer. Although the consumer benefits from the higher quality of the helmets, the consumer is unable to purchase a helmet of lesser quality for a lower price.

Interpretive Analysis

The objective of the regulation — namely, to ensure that all hockey helmets are adequately safe and thereby to reduce the number and seriousness of head injuries suffered by hockey players — would appear to have been substantially achieved. The CHA requirement that hockey players wear helmets during play complements the regulation since the regulation controls only the sale of the product, not its use. The increasing prevalence of legal action over the past few decades has likely also contributed to increasing the safety of the helmets that were being used by hockey players.²⁹ Health Canada has since regulated the manufacture of face protectors under the *Hazardous Products Act*.³⁰

Bicycle Helmets

Background

As bicycles became an increasingly popular mode of transportation in the 1960s and 1970s, manufacturers began to address the risk of head injury by developing bicycle helmets. Although the first bicycle helmets were relatively primitive, helmet use gradually increased. Soon American standards organizations began to test and certify helmets.³¹ Canada lagged behind the U.S. in this respect until the mid-1980s, when CSA began to develop a bicycle helmet standard, which was finally published in 1989.³²

28. Donald J. Lecraw, *Voluntary Standards as a Regulatory Device* (Ottawa: Economic Council of Canada, 1981).

29. Helmet manufacturers generally, including hockey helmet manufacturers, were reported as being subject to an increasing number of product liability suits in the 1980s. See, e.g., J. Davidson, “Helmet Makers Drowning in Sea of Litigation,” *The Globe and Mail*, March 31, 1986, p. C1.

30. *Hazardous Products Act*, s. 20, incorporating CSA, *Face Protectors and Visors for Ice Hockey Players Standard CAN3-Z262.2-M78* (Toronto: CSA, 1990).

31. Organizations include Snell, in 1973 (see information on current Snell standards at <www.smf.org/stds.html>), and the American National Standards Institute (ANSI), in 1984 (see <www.ansi.org>).

32. CSA, *Cycling Helmets Standard*, CAN/CSA-D113.2 M89 (Toronto: CSA, 1989), available in a 2001 revision.

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In the early 1990s the federal Department of Consumer and Corporate Affairs considered regulating the sale of bicycle helmets through the *Hazardous Products Act*. If carried out, this proposal, announced in both 1990 and 1991, would have referentially incorporated the CSA standards into the *Hazardous Products Act*,³³ in the same manner as hockey helmets. However, in 1992, the Department of Consumer and Corporate Affairs published a withdrawal of its regulatory proposal in the *Canada Gazette*.³⁴ This action was taken for the stated reason that marketplace compliance with one of the major standards was nearly universal.³⁵ The Department of Consumer and Corporate Affairs committed itself to monitoring the industry's compliance with these standards and to introducing regulations at a later time if necessary.³⁶

The decision to withdraw the proposal to regulate bicycle helmets deserves closer scrutiny. If the regulation of hockey helmets was acceptable in the 1970s, what changes occurred to make the regulation of bicycle helmets unacceptable in the 1990s? While governments of the 1970s often saw regulation as a favoured tool to protect society from hazardous products, governments of the 1990s tended to resort to the use of regulations only when all other means were impractical. The movement to regulate the sale of hockey helmets occurred during an era in which government was inclined to use regulation as a policy instrument.³⁷ This was particularly true in the context of consumer protection.³⁸ By the 1990s attitudes toward regulation had shifted, and the limitations and costs of regulation were felt to be increasingly apparent, so that alternatives were favoured unless proven to be impractical.³⁹ However, the federal government did not reject the concept of regulation outright. Indeed, it was recognized that regulation could play a key role if "public protection requires it."⁴⁰

Government's desire to prevent the proliferation of unnecessary regulation resulted in the creation of the Office of Privatization and Regulatory Affairs (OPRA) in the 1980s. OPRA's influence came from its relationship to the Special Committee of Cabinet. The Special Committee, which approved all regulations, was advised by both the Privy Council Office and OPRA. Recommendations from the Privy Council Office or OPRA to approve or oppose a regulation were apparently given considerable weight by the Special Committee.⁴¹

33. Office of Privatization and Regulatory Affairs, 122-CCAC, *Federal Regulatory Plan* (Ottawa: 1990); Office of Privatization and Regulatory Affairs, 138-CCAC, *Federal Regulatory Plan* (Ottawa: 1991).

34. *Canada Gazette*, Part I, March 9, 1991, p. 756.

35. *Ibid.*

36. *Ibid.*

37. R. J. Schultz, "Regulating Conservatively: The Mulroney Record, 1984–1988," in A. B. Gollner and D. Salee, eds., *Canada Under Mulroney: An End-of-Term Report* (Montreal: Véhicule, 1988), p. 192.

38. *Ibid.*

39. *Ibid.*, p. 201.

40. Office of Privatization and Regulatory Affairs, *Regulatory Reform Strategy* (Ottawa: 1986), p. 4.

41. Interview with Georges Desbarats, (footnote 21).

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In the case of bicycle helmets, the Department of Consumer and Corporate Affairs, with the full cooperation of industry and CSA, had initiated bicycle helmet regulations.⁴² However, our interviews suggest that, because of concerns raised in particular by OPRA, it was decided that regulation was not appropriate, and the proposal was withdrawn.

The decision to withdraw the regulation stemmed from several factors. The vast majority of helmets on the market met one of the major standards. It was felt that if manufacturers were compelled to meet the CSA standard in addition to whichever American standard they complied with, they would pass on the costs of adherence to the consumer through higher helmet prices. Concerns were also raised that the potential increase in price would result in lower helmet usage among cyclists. In the final analysis, it was concluded that the potential reduction in head injuries achieved through the improvement of the helmets would not be offset by the potential increase in head injuries due to lower helmet usage.

It is interesting to note that in the case of bicycle helmets there is no powerful user association akin to the CHA which can compel the wearing of bicycle helmets in the same way that the CHA can compel the use of CSA-approved hockey helmets by its members. Although there are bicycle racing associations, they have far less influence on bicyclists than the CHA has on hockey players. Whereas hockey is a sport most often played in an organized forum, bicycling is primarily a leisure activity or a means of transportation and is not generally organized. However, as will be discussed later, the increasing number of provincial, state and municipal bicycle helmet-use laws are compelling cyclists to wear approved helmets in particular jurisdictions.

Process

The CSA bicycle helmet standard was published in 1989 following a development process similar to the one described above with respect to hockey helmets. Like the CSA hockey helmet standard, the bicycle helmet standard is a technical document requiring that the helmets pass a particular impact test. At present, bicycle helmet manufacturers are under no Canadian legislated obligation to meet any safety standard. In contrast, as of 1999, all helmets sold in the U.S. had to meet a separate, legislated standard that was developed by the Consumer Product Safety Commission.⁴³

Companies complying with the CSA standard are entitled to place the CSA logo on their helmets, thus offering a signal of assurance to safety-conscious consumers. Helmets that comply with more than one standard will often bear several logos. However, an advantage of CSA certification is that the CSA logo is more familiar to

42. *Federal Regulatory Plan 1990* (footnote 33), p. 51. *Federal Regulatory Plan 1991* (footnote 33), p. 49.

43. This stands in contrast to the situation in the U.S., where federal legislation known as the *Children's Bicycle Helmet Safety Act of 1994*, § 201-207, Pub. L. 103-267, 108 Stat. 726-729; 15 U.S.C. 6001-6006, requires that all helmets meet any one of a prescribed set of standards. Although the title of the Act specifically refers to children's helmets, it actually covers all types of helmets. The Act contains two initiatives, the first is to promote the use of bicycle helmets by children (hence the name), the second is to develop a national safety standard for bicycle helmets.

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Canadian consumers than most other logos.⁴⁴ This may provide a company with a competitive advantage if it plans to service the Canadian market.

Implementation

CSA enforces its standard by first testing samples of a prototype batch from the applicant. If the prototypes pass the CSA tests, then CSA authorizes the use of its logo for that particular helmet. Twice a year CSA inspects the manufacturing site — to ensure that quality control measures are in place — and randomly tests helmets from the site. If any of the samples fails to meet the standard, CSA launches a confidential investigation. CSA does not provide an estimate of how much the cost of certification adds to each helmet. However, the manufacturer pays \$450 for each of the two inspections CSA conducts each year.⁴⁵ Re-testing fees are \$700, and there is a licensing fee of between \$800 and \$1000 per year. Each label costs \$0.04.⁴⁶

Effectiveness of Voluntary Bicycle Helmet Standards

Overall, the CSA standard, like its U.S. counterparts, appears to have successfully ensured that bicycle helmets are safe. Virtually every manufacturer of bicycle helmets adheres to at least one of the major safety standards. As the Department of Consumer and Corporate Affairs noted when withdrawing its regulatory proposal, a market survey had shown that retail outlets did not carry helmets which did not meet at least one of the predominant standards.⁴⁷ *Consumer Reports* magazine surveys of the U.S. market in the past (i.e. before the mandatory standard came into effect) have confirmed this conclusion. In 1990 the magazine tested a wide variety of helmets available in the U.S. and found only one that did not meet the impact test.⁴⁸ There is no

44. A 1984 survey found that more Canadian consumers recognized the CSA logo than recognized the logo of any other certification body. T. A. Watts, *Consumer Awareness and Perception of Canadian Marks of Conformity* (Ottawa: Standards Council of Canada, 1984), p. 23. The information is admittedly dated, but casual observation shows that the CSA label is, if anything, even better known today.

45. Interview with Charlie Caruara of CSA, June 1996.

46. *Ibid.* In contrast, Snell regulates usage of its logo in a unique manner. Operating on the theory that the best test subjects are products actually available to the public, Snell buys its test-sample helmets directly from retailers. If a helmet purchased by Snell fails to meet the Snell standard, another three are purchased. If any of these is not up to standard, Snell will require the manufacturer to correct the defect. If no action is taken Snell will recall its certification and in some cases publish a retraction of their certification.

47. *Canada Gazette* (footnote 34), p. 756. In the U.S., incidents of non-compliance with standards, resulting in Consumer Product Safety Commission (CPSC) recalls, do occur from time to time. (The Bicycle Helmet Safety Institute gathers information in this regard at <<http://www.helmets.org/recalls.htm>>.) In one U.S. case, the manufacturer of a toy helmet (clearly marketed as such) claimed that it had no obligation to comply with the regulations since its product was not intended for use as a real helmet. (Described by Scott Heh, Division of Engineering, CPSC, in interview, June 1996.) Since the the CPSC came into full effect, such non-compliance can carry with it serious legal penalties.

48. "Bike Helmets: Unused Lifesavers," *Consumer Reports*, May 1990, p. 348.

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indication that this helmet was ever sold in Canada. A follow-up survey in 1994 found that every helmet tested met acceptable standards.⁴⁹

The apparent high rate of compliance among bicycle helmet manufacturers appears to be related to the fact that consumer awareness of safety issues has grown in recent years. In Canada, consumers are so accustomed to seeing the CSA logo on virtually every piece of protective equipment that they are hesitant to purchase helmets that are not CSA-approved. Since consumers desire safe helmets and associate the logos with safety, manufacturers have an incentive to ensure that their helmets meet these standards.

Interpretive Analysis

Canada's voluntary bicycle helmet performance standards are effective primarily because industry compliance is almost total. It is possible to identify four main reasons for the overwhelming industry compliance with bicycle helmet standards: the maturation of standards organizations, high consumer awareness of safety issues, legal liability risks, and helmet-use laws requiring that cyclists wear certified helmets. These are discussed in greater detail below.

The Maturation of Respected Standards Organizations. Most of today's prominent standards-writing organizations were created in the early part of the last century.⁵⁰ The early years of these organizations were spent developing a reputation with both industry and consumers. As standards organizations have become better established, it has become easier to convince industry, government and consumers that they offer valuable services. By the early 1980s, it was clear that a majority of consumers recognized the logos of the major standards organizations.⁵¹ Thus, by the early 1990s bicycle helmet manufacturers were aware of the benefits of complying with one of the major standards as a signal of assurance to consumers.

Increased Consumer Awareness of Safety-related Issues. The consumer movement of the 1960s and 70s demonstrated a growing public awareness of marketplace safety issues. In the 1990s consumers seem to use several factors when determining which products to purchase. Although price is often important, safety appears to be a critical factor as well.⁵² In the current marketplace consumers tend not to accept products that have not undergone testing to ensure their safety. This is particularly true of protective equipment such as helmets. If consumers will not buy unsafe products, even less expensive ones, there is little reason for the manufacturer to make them or the vendor to stock them.

49. "Bicycle Helmets," *Consumer Reports*, August 1994, p. 518.

50. CSA was established in 1919, ANSI in 1918 and ASTM in 1898. Snell, on the other hand, was formed in 1956.

51. Watts (footnote 44), p. 21.

52. The above-mentioned survey found that 94 percent of respondents always or sometimes looked for the CSA logo when purchasing products. *Ibid.*, p. 73.

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The Legal Liability of the Helmet Manufacturer and Vendor. Since the 1970s there has been an increasing awareness on the part of manufacturers and vendors of their potential tort liability for unsafe products. In the case of bicycle helmets, most manufacturers will not make products which do not pass the tests of a major standards organization, since this is the best way to show insurers, vendors, consumers and the courts that the product is safe. While the fact that a bicycle helmet is certified by a major standards organization will not necessarily relieve the manufacturer and vendor of liability, selling a helmet that could *not* be certified will increase the likelihood of being found liable in negligence when injuries occur.⁵³

The Emergence of Mandatory Bicycle Helmet Use Laws. In the late 1980s various jurisdictions began to make wearing bicycle helmets mandatory for some or all cyclists. The helmets must meet approved standards. The first North American jurisdiction to adopt such legislation was California, which required bicycle helmets to be worn by all passengers under five in 1987, and other U.S. jurisdictions have followed this example.⁵⁴ The bicycle helmet industry understood that there would be more such legislation in the future. Since, inevitably, this legislation would specify that the helmet must be approved by a particular standards organization, manufacturers realized that they must conform their helmets to these standards if they wished to sell them. The move toward mandatory helmet-use legislation has also taken place in Canada. An Ontario law, making helmet-use mandatory for all cyclists under the age of 18, came into effect October 1, 1995. The law states that helmets must conform to at least one of nine different standards, including Snell, CSA, ANSI and ASTM.⁵⁵ Then, British Columbia in 1996 became the first North American province or state to make the wearing of certified helmets mandatory for *all* riders.⁵⁶ Because of the trend towards legislating helmet use, the industry has had a strong incentive to ensure that helmets are capable of passing the various standards. Failure to do so would make the helmets virtually unmarketable in areas that have mandated their use.

53. See, e.g., *Hohlenkamp v. Rheem Mfg. Co.* (1982) 655 P2d 32, discussed in 47 ALR 4th, 621), a U.S. products liability case involving an allegedly defective water heater. In this case, the defendant manufacturer's evidence that it had complied with applicable ANSI standards was deemed admissible. According to ALR, "the court expressed the belief that industry standards promulgated by organizations like the ANSI, through their use of committees of experts in the particular industry, were more representative of the consensus of the industry than any single learned treatise or expert's opinion." Such admissibility is a selling point used by standards organizations in touting their services. For instance, in promotional literature, the U.K.'s British Standards Institution tells businesses that the use of its logo "provides you with evidence to help show due diligence in product liability cases. It shows you have sought the approval of the world's most respected standards body." See BSI-Global, *The Kitemark: Business Benefits*, London: 2000, available at <www.bsi-global.com/Kitemark/Overview/Business_Benefits.xalter>. For further discussion of the legal aspects of voluntary codes see Kernaghan Webb and Andrew Morrison, "The Law and Vountary Codes: Examining the 'Tangled Web'," Chapter 5, above.

54. The Bicycle Helmet Safety Institute provides an inventory of such laws; see *Helmet Laws for Bicycle Riders*, available at <www.helmets.org/mandator.htm>.

55. *Highway Traffic Act*, s. 104; Ont. Reg. 411/95, 610.4(1).

56. See footnote 3. The effectiveness of British Columbia's law has been the subject of a study (*British Columbia Bicycle Helmet Study*) by the University of North Carolina's Highway Safety Research Center, available at <www.hsrc.unc.edu/pubinfo/bike_bchelmets.htm>.

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The high rate of industry compliance with bicycle helmet standards has helped to mask two other possible reasons why bicycle helmet standards are not regulated under the *Hazardous Products Act*: the belief that the problem was insufficient to merit regulation; and concerns surrounding the free trade implications. These two points merit a closer look.

Insufficient justification to merit regulation. Since the proposed regulation was not designed to increase the number of bicycle helmet wearers, but only guarantee the integrity of the helmets worn by cyclists, the regulation, by itself, would have had only a minimal effect in reducing injuries. Without some means of increasing the use of bicycle helmets among bicyclists, it was felt that any increase in the quality of bicycle helmets would not result in a significant decrease in head injuries sustained in bicycle accidents. The problem was not so much that the helmets on the market were unsafe, but that helmets were not widely used. This stands in contrast to hockey, in which players have been injured while wearing an unsafe helmet.

Canada-U.S. Free Trade Agreement (FTA). In Chapter Six of the FTA (which came into effect on January 1, 1989), Canada and the U.S. pledged not to introduce product standards that would create unnecessary barriers to trade between the two countries.⁵⁷ As a result, Canada can only introduce standards-related regulations if it can demonstrate that the purpose of doing so is to achieve health and safety objectives. When the proposal for regulation was reviewed, concerns surfaced that referential incorporation of the CSA standard into the *Hazardous Products Act* might constitute a trade barrier contrary to Article 603. Although it was suggested that the regulation could be justified under the health and safety exception, there was no concrete evidence that the CSA standard was superior to the major American standards. The possibility of a trade dispute over a regulation that was ultimately considered to be unnecessary to achieve its safety objective, was yet another reason for withdrawing the proposal to regulate.⁵⁸

In short, there have been a number of factors that help to explain the particular approach to adoption of bicycle helmet standards and bicycle helmet use laws in Canada.

Distinctive Nature of Hockey and Bicycling Activities

A final possible explanation for the different approaches might be the distinctive nature of hockey and bicycling. People usually play hockey in groups — teams — against others. Although the team formation does not have to be formally undertaken, it is clear that a user organization which establishes leagues, and allows for graduation from one tier to another, can be extremely important in the sport's development and popularity among young people. In Canada, user organizations (notably, the Canadian Hockey Association) perform an important intermediary role in ensuring that many

57. International Trade Communications Group, *The Canada-U.S. Free Trade Agreement* (Ottawa: 1987), Article 603. The FTA was incorporated into the subsequent North American Free Trade Agreement, Chapter 9, available at the Web site of the Organization of American States, <www.sice.oas.org/trade/nafta/naftatce.asp>.

58. This information was provided by Georges Desbarats (footnote 21).

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Canadians play hockey. Organized hockey also usually requires a rink, a costly item that few individuals would ever be in a position to build and maintain. Therefore, user organizations encourage governments to create and maintain the much-needed rinks. Thus, such organizations act both as gatekeepers (giving associations such as the CHA a certain latitude to impose conditions upon its members) and as facilitators (ensuring the availability of appropriate fora for play). Both roles make them potentially liable when things go awry. Given the powerful position of the CHA with respect to its members, combined with its potential vulnerability, it is not surprising that a predominantly non-legislative approach has been largely successful in persuading hockey players to use standardized helmets.⁵⁹

This situation is in contrast to cycling. For many, cycling is a solitary activity. It can be a mode of transportation or a leisure activity. It is not necessary for a cyclist to join a bicycling association in order to ride his or her bicycle. Cycling need not involve teams and, therefore, many cyclists — even avid ones — see no need for organized bicycling activities. Cycling does not require the use of specialized facilities: any road or path will suffice (although specialized facilities do exist, and may attract clubs). As a result, with the exception of racing organizations that tend to rigorously enforce helmet requirements, cycling associations do not play a central role in the pursuit of cycling. In turn, cycling associations are not in as powerful a position as hockey associations in terms of their ability to perform gate-keeping functions and impose rules on users. Nor would they, in normal circumstances, be as likely to attract liability as a result of a cyclist's activities. Thus, for the average cyclist, a rule requiring the wearing of a helmet prescribed by a bicycling association would hold no sway. Yet cyclists' head injuries can impose costs on many public services and bodies (particularly health-related costs). It is not surprising, then, that laws regarding the use of bicycle helmets have been considered necessary in an increasing number of Canadian jurisdictions. Looked at this way, the nature of the activity in question would appear to have played an important role in determining the approach to policy-instrument selection.⁶⁰

Conclusion

The divergent approaches adopted to implement performance and use requirements for hockey and bicycle helmets provide a number of interesting insights concerning why and how regulatory and non-regulatory instruments and institutions are used in consumer safety contexts. At its most basic level, this chapter suggests that it is wrong to view the selection of regulatory and non-regulatory approaches as an either/or proposition. In practice, the two may work in tandem. Thus, for example, there are

59. Another factor may be the relatively high level of consumer knowledge regarding hockey equipment, which ensures that sub-standard helmets will not find a market in Canada. See M. E. Porter, *Canada at the Crossroads* (Ottawa: Ministry of Supply and Services, 1991), pp. 227–228.

60. Another example of the way the nature of the activity can play a role in policy development is equestrian helmets. Equestrian helmets are certified by ASTM. There are no laws or regulations requiring that they meet the ASTM standard, but major equestrian bodies such as the United States Pony Club and the American Horse Shows Association require the use of certified helmets in the events they sponsor. See J. Woodward, "The New Regulations: Prepare for Impact," *Tack 'n Togs Merchandising*, December 1989, p. 30.

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federal regulatory product standards for hockey helmets, yet use requirements are (with the exception of Quebec) implemented through non-regulatory means. In the case of bicycle helmets, performance standards are not set out in law, but several jurisdictions have use requirements enshrined in law.

Moreover, it is worth emphasizing that in both the hockey and bicycling contexts, the mix of regulatory and voluntary techniques in place operates against a backdrop of tort liability. That is, should an injury take place, there is a potential for the harmed party to bring an action in negligence against manufacturers, vendors, member associations, standards organizations, facility owners and even governments, if it can be established that a duty of care was owed, and that a reasonable care standard has been violated. This potential for private civil law actions provides an important stimulus for many parties to put in place both regulatory and voluntary measures.

As to why one particular set of regulatory and voluntary measures is in use in the case of hockey helmets, and another for bicycle helmets, we have seen how a combination of factors seems to be at play, including the distinctive nature of the activity itself, different governmental attitudes over time toward the use of regulation and its alternatives, divergent market conditions, the ability of user associations to compel use on members, the existence of regulations in other jurisdictions, and the increasing credibility of standards bodies in the eyes of government, the private sector, the courts and consumers.

