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### Survey of Public Perceptions of Prion Disease Risks in Canada: What Does the Public Care About?

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## Survey of Public Perceptions of Prion Disease Risks in Canada: What Does the Public Care About?

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A national public survey on public perceptions of prion disease risk in Canada was conducted from October to December 2007. The survey aimed at documenting the public's perceptions of prion diseases, within the broader context of food safety, in establishing parameters of risk acceptability. It also documented the public's perceptions of prion diseases in delineating social values and ethics that can guide Canada's future policies on prion disease risk management. In addition, the survey served to establish baseline data against which to monitor the evolution of the public's views on and understanding of this important risk issue. In total, 1517 Canadians were randomly selected to be representative of the adult population by region, age, and gender, as per the 2001 Census. This study presents descriptive findings from the survey regarding perceived risk, perceived control, uncertainty, sources of information, trust and knowledge, and beliefs pertaining to bovine spongiform encephalopathy (BSE). The survey data reveal that Canadians do not perceive mad cow disease as a salient risk but consider it more of an economic, political, social, and foreign trade issue than a public health one. Canadians are somewhat prepared to pay a premium to have a safer food supply, but not to the same extent that they desire extra measures pertaining to BSE risk management. In the context of increasing accountability in risk management decisions about food safety and population health issues, it is important to understand the way Canadians perceive such matters and identify their information needs and the factors that influence the acceptability of risks and of risk management policies.

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In Canada, important work is being done on the issue of bovine spongiform encephalopathy (BSE), including studies about the basic biology of prion proteins involved in the etiology of BSE, as well as the veterinary aspects of prion disease prevention. In addition, studies regarding the possible population health repercussions of BSE (PrioNet Canada, <http://www.prionetcanada.ca>) are being conducted. However, the views of the Canadian public on BSE and related prion diseases have been less well documented. BSE risk management should not be restricted to discussions among experts about the best strategies to address BSE in Canada, but should also involve effective communication with the public. In the context of increasing accountability in risk management decisions about food safety and population health issues, it is important to understand the way the Canadian public perceives such matters by identifying their viewpoints and information needs. Investigating these elements is essential to help predict individual's reactions and behaviors to a given threat (Fischhoff, 1995; Fischhoff et al., 2003). When the magnitude of the impacts of a risk crisis such as BSE depends largely on decisions and actions taken by the public, examining people's perceptions about BSE and their expectations in terms of risk management policies becomes crucial.

National surveys conducted in the United States and Europe provided some information on public perception of BSE as a risk issue (Hallman et al., 2004; Verbeke & Viaene, 1999; Smith, 1999; Weitkunat et al. 2003). These surveys contain findings dealing mostly with consumer behavior, such as reduction in meat consumption or confidence in the meat supply in response to the occurrence of BSE (Lemyre et al., 2008a). Following the BSE outbreak in Canada, a number of polls were conducted that provide snapshots of public concern about BSE (Canadian Institutes of Health Research, 2003). Although useful, these are of limited value in understanding the complexity of BSE risk acceptability. There exists little empirical data on public perceptions of mad cow disease and on the anticipated

responses of the Canadian public regarding a future outbreak. Research questions regarding BSE include: How is this disease perceived compared to other food borne risks? How much knowledge do Canadians have concerning the disease? Who do they trust to get information about BSE? These questions need to be answered in order to develop effective risk communication strategies and to support risk management decision making.

Firstly, 48 participants, representative of the adult population, namely, 23 men and 25 women, were recruited from the lay public for focus groups conducted by Lemyre et al. (2007). The focus groups were held in rural and urban regions in the two most populated provinces, Ontario and Québec. Six out of eight focus groups were separated by gender. Fifteen questions were posed to the groups in a discussion-based format. Additional questions were asked where time permitted. The findings revealed that, contrary to most health risks, which are generally overestimated, members of the general public did not have major concerns regarding BSE in Canada. They perceived the risk of being infected as minute, and did not think further cases of BSE in Canada were likely. Participants also felt that they needed to be better informed by the media and the government regarding BSE, specifically with respect to the level of risk, symptoms and routes of transmission. They also needed better information on ways to protect their families from BSE risks. They expressed confusion over whether or not one could cook the meat, as with avian flu, or whether it was just a fad like margarine versus butter. In terms of government initiatives, participants agreed with policies such as increasing herd surveillance, food traceability, and support financial aid to farmers. They reported being worried about the future of farming and about the politics of international trade (Lemyre et al., 2007). These findings from the focus groups hinted that more attention needs to be given to the broader context in which BSE risk issues should be considered. The next step was to gather a large representative sample in order to meet this need.

The present article presents descriptive statistics from the National Public Survey on Risk Perceptions and Risk Acceptability of Prion Diseases and Food Safety (Lemyre et al., 2008b). The survey, funded through PrioNet Canada, is a sub-component of Theme V: Integrated Risk Management Framework for BSE. This article is limited to a subgroup of selected core questions from the survey; more detailed results will be reported separately.

The survey aimed at documenting public perceptions of prion diseases in the broader context of food safety and in establishing parameters of risk acceptability. A related upcoming concern about chronic wasting disease (CWD), which is an emerging prion disease affecting wild game such as elk and deer, was also investigated. The demand for increased accountability in management decisions about food safety and health issues makes it important to understand the

way Canadians perceive such matters. This will help to identify the Canadian public's information needs as well as the factors that influence their support of risk management policy decisions. In light of this, a national survey of 1517 Canadians randomly selected to be representative of the adult population by region, age, and gender, as per the 2001 Census, was designed to assess public perception and acceptability of risks related to prion diseases and food safety in Canada. The survey also aimed to highlight the gaps between public concerns and expert assessment or current policies on this subject. The results are grouped under the following three themes: (1) a description of the risk perceptions and consequences of BSE and CWD, as well as the knowledge of Canadians regarding mad cow disease; (2) a description of the level of worry, perceived control, uncertainty, and acceptability of BSE, as well as the behavior of Canadians in relation to this disease; and (3) a description of Canadians' perceptions of government initiatives and policies, of their trust and confidence in various authorities, and of their information-seeking practices.

## METHODS

### Participants

A sample of 1517 Canadians over the age of 18 yr, providing a margin of error of 2.5%, took part in the survey (680 men and 837 women) stratified to be representative of the Canadian population in terms of region (Atlantic: Newfoundland, Prince Edward Island, Nova Scotia, and New Brunswick; Quebec; Ontario; Prairies: Manitoba and Saskatchewan; Alberta; and British Columbia), in terms of age group (18–24, 25–34, 35–44, 45–54, 55–64, and 65 or more years of age) and of gender within region, in accordance with 2001 Census data. The survey was available in the respondent's official language of preference, French or English: 1161 respondents completed the survey in English and 356 completed it in French. Then, the survey was weighted to fully representative of the Canadian population, based on Census data, in terms of region (province), density (rural vs. urban), age group, and gender. The data were also representative of participants' education level and household income. A breakdown of the number of respondents by region is presented in Table 1, while Table 2 illustrates the age group, household income, and education distribution of respondents.

### Materials

The content of the questionnaire was modeled similar to previous surveys such as the National Survey of Health Risk Perception and Acceptability in Canadians (Krewski et al., 1995a, 1995b, 2005), the previous National General Health Hazard Survey (Lemyre et al., 2004; Krewski et al., 2006, 2008, 2009), and the Canadian National Public Survey of Perceived CBRN Terrorism Threat and Preparedness (Lemyre et al., 2005), conducted by

**TABLE 1**  
Number of Respondents by Region

Region	Frequency	Percent	Percent as per 2001 census
Atlantic	125	8.2	7.6
Quebec	388	25.6	24.1
Ontario	532	35.0	38.0
Prairies	98	6.5	7.0
Alberta	161	10.6	10.0
British Columbia	209	13.8	13.1
Territories (NWT/Yukon)	4	0.3	0.2
Total	1517	100.0	100.0

members of our research team. The questionnaire also included concepts that emerged in our focus groups on public perceptions of BSE and food-related risks (Lemyre et al., 2007), and concepts from findings of our pilot work (Lee et al., 2004). All questions were presented in the form of statements to be rated on a 5-point Likert-type scale. Anchors of 1 = not at all, 2 = a little, 3 = moderately, 4 = very much, and 5 = extremely were used in all sections unless otherwise noted.

### Survey Procedures

The survey was administered via telephone interviews by Goss Gilroy, Inc., between October 17 and December 14, 2007. A stratified random sampling procedure was employed

with random digit dialling. In total, 31,287 numbers were dialed, in which the contact rate of all numbers was 46%. In addition, from these numbers, 25% were invalid and 28% were unanswered calls. The 1526 interviews completed (including the 9 pilot tests) represented a response rate of 5% of all dialed numbers. The remaining portion of numbers dialed included a refusal rate of 38% and a cooperation rate of 7%. During administration of the survey, lists of items within sections were sequenced randomly to balance for possible order effects. Interviews lasted approximately 30 min on average.

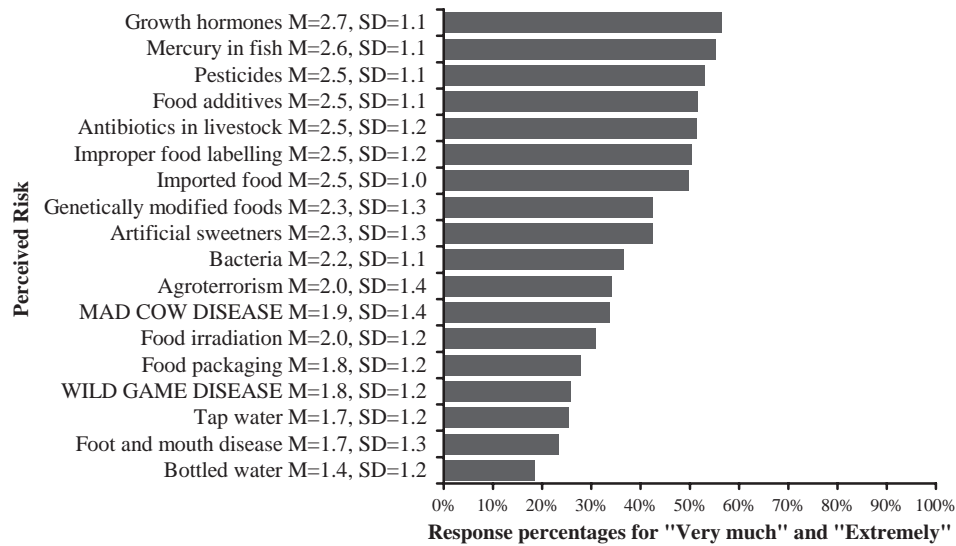
## RESULTS

### Risk Perception of BSE

*The Risk of Mad Cow Disease Compared to Other Food Safety Items.* Respondents were asked to comment on the risks of a number of food safety issues. Some of the questions asked included: What level of risk to Canadians would you say there is related to the following: pesticides, tap water, use of antibiotics in livestock, mad cow disease, foot and mouth disease, food additives, bottled water, mercury in fish and growth hormones? As illustrated in Figure 1, mad cow disease did not represent a major risk to them, compared to other issues. Growth hormones were perceived as presenting the highest risk, with more than half (57%) of the respondents claiming these were very much or extremely a risk. Other food issues perceived as high risk (much higher than prion diseases) were mercury in fish (55%), pesticides (53%), food additives (52%), and use of antibiotics in livestock (51%). Certain food items for which the general Canadian public did not perceive much

**TABLE 2**  
Age Group, Household Income, and Education Distribution

	Age group				Refused to answer
	18–24	25–44	44–64	65 and over	
Frequency	118	585	558	250	6
Percent	7.8	38.6	36.7	16.5	0.4
	Household income				Refused to answer
	Under \$20,000	Under \$40,000	Under \$80,000	Over \$80,000	
Frequency	117	265	517	418	200
Percent	7.7	17.5	34.0	27.6	13.2
	Level of education				Refused to answer
	Some/completed elementary school	Some/completed high school	Some/completed postsecondary degree	Some/completed graduate school	
Frequency	37	390	918	169	3
Percent	2.4	25.8	60.5	11.1	0.2

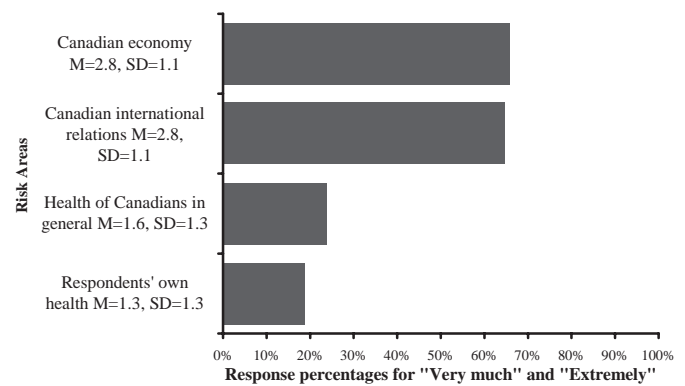


**FIG. 1.** Perceived risk to food safety in Canada. M, Mean risk perception: not at all = 1, a little = 2, moderately = 3, very much = 4, extremely = 5, SD, standard deviation.

of a health risk were bottled water, followed by foot and mouth disease, tap water and mad cow disease.

*The Level of Knowledge on Mad Cow Disease.* The survey included questions rating the respondents' level of knowledge of mad cow disease. Overall, respondents felt well informed about the risk issue. The majority (72%) of respondents were aware that "it was likely that cows could get mad cow disease if they ate contaminated feed prepared using cow carcasses." However, the awareness level of participants was lower regarding other risk issues. When asked if they thought "it was likely that an animal could be infected with mad cow disease without showing symptoms" half of respondents (51%) stated that they very much or extremely believed this to be the case. Moreover, 55% of respondents thought "it was likely that humans would become infected with the human form of mad cow disease if they ate contaminated beef." Lastly, 43% believed very much or extremely that "it is likely that wild game could develop diseases similar to mad cow disease."

*Specific Areas for Which BSE is a Risk.* Participants were asked: Do you think mad cow disease represents a risk to your health, represents a risk to the health of Canadians in general, poses a risk to the Canadian economy, and poses a risk to Canadian international relations? BSE represents a low risk to oneself according to respondents. It is important to note that the sense of likelihood of a negative event, and the severity of its consequences, are two aspects of risk. Therefore, when addressing the notion of risk, one is addressing a review of both these concepts. For a significant number of respondents (63%), mad cow disease represented no or little risk to their health. However, when asked the same question but in regard to the health of Canadians in general, there was a quantitatively higher perceived risk, fewer people (51%) said there was no or



**FIG. 2.** Perceived areas for which BSE is a risk. M, Mean risk perception: not at all = 1, a little = 2, moderately = 3, very much = 4, extremely = 5, SD, standard deviation.

little risk. On the other hand, respondents believed the risk of mad cow disease to be a more important issue for social, political, and economical reasons rather than individual physical health. In fact, as shown in Figure 2, the Canadian public believed mad cow disease poses a high risk to the Canadian economy (66%) and to international relations (65%). These findings indicated that mad cow disease is not as much a health issue in the mind of the Canadian public as it is an economic and a political one.

Even though mad cow disease posed a strong risk for the Canadian economy and international relations, the likelihood of these crises occurring, according to the general public, was seen as being somewhat low. After being asked "How likely do you think it is those crises arising from mad cow disease occur

in Canada?" only 28% of respondents reported believing extremely or very much that the aforementioned crises would occur.

*Perceptions of Chronic Wasting Disease.* The survey also included items on the Canadian public's perceptions of chronic wasting disease. Questions included: Do you worry that wild game could have a similar illness to mad cow disease? Would you or your family stop eating wild game if these animals were found to have a similar illness to mad cow disease? Just over one quarter of respondents (26%) worried that wild game could have an illness similar to mad cow disease. Moreover, if these animals were found to have a similar illness to BSE, 25% of respondents would still eat wild game, whereas 47% of respondents would stop altogether.

*Perceptions of the Consequences of the Discovery of a Case of Mad Cow Disease.* Respondents commented on a list of 10 possible consequences of the discovery of new cases of mad cow disease in Canada. They were asked: How likely do you think it is that the following would occur if future cases of mad cow disease were found: People will panic, countries will stop importing beef, Canadians will stop eating beef, and farmers and ranchers will declare bankruptcy? The majority of respondents (85%) believed that the most likely consequence to occur would be that countries would stop importing Canadian beef. Other likely consequences included those that affect farmers. If future cases of mad cow disease were found, 67% of respondents believed that farmers and ranchers would suffer from psychological distress and 66% believed that farmers would declare bankruptcy. On the other hand, the most unlikely consequence was a change in consumption of beef. Respondents stated that they or their families (48%), or Canadians in general (33%), would not at all stop eating beef or only a little.

### Level of Worry and Behavior of Canadians

An indicator of perceived threat of mad cow disease is the level at which respondents worry about getting the disease. Respondents were asked to state their worry levels with respect to three different ways of contracting mad cow disease: by eating tainted beef, through blood transfusion, or through surgical instruments. Results showed that respondents are not worried or only a little worried about contracting mad cow disease through blood transfusion (79%) or surgical instruments (83%). Nonetheless, the worry level of respondents was somewhat higher when asked if they were worried about getting mad cow disease by eating tainted beef. In response to this question, 58% of respondents had no or a little worry, whereas 28% indicated they were extremely or very much worried about contracting prion disease this way.

In order to assess their sense of mastery, participants were asked to state to what extent they felt they had personal control over the risks of mad cow disease. They responded to the following questions: Do you feel you have personal control

over the risks of mad cow disease? What level of uncertainty do you think there is about mad cow disease? Results indicated that participants did not feel they had much control over the risks associated with this disease. In fact, only 23% felt they had control over the risks of BSE, whereas 62% said they had no or little control. On the other hand, the uncertainty surrounding the matter was quite modest: 36% of respondents said that there was high uncertainty, 32% claimed there was moderate uncertainty, and 29% believed there was no or little uncertainty about BSE risks. In addition, respondents commented on what level of risk associated with the disease they thought was acceptable; it comes as no surprise that the majority of respondents (76%) believed no or little risk was acceptable.

*Behavior and Consumption Habits.* Variables regarding the behavior and consumption habits of respondents in light of the BSE crisis were included in the survey. Questions included: Do you try to ignore risks related to mad cow disease? Have you taken personal actions to avoid getting mad cow disease? How much have you or your family modified your consumption of beef after the first case of mad cow disease was discovered in Canada in 2003? Would you or your family modify your diet if contaminated beef were found in Canada? How much would you or your family modify your diet if contaminated beef were found in your region? The majority of respondents (64%) paid attention to news about mad cow disease and made an effort not to ignore the related risks. However, not as many respondents were active in avoiding the risks, as only 26% claimed to have taken personal action to avoid getting the disease. Moreover, a low number of respondents (16%) modified their own or their family's beef consumption after the first case of mad cow disease was discovered in Canada in 2003. However, if infected cows were again to be found in Canada, a substantial number of respondents (38%) claimed they would modify their own or their family's diet. Moreover, as the risk became geographically closer to participants, more caution was seen in their responses: If contaminated beef were found in Canada, 46% of respondents would modify their or their family's diet, whereas if beef was found in their own region, 67% would do so.

### Perceptions of Government Initiatives

In the survey, respondents rated the government and its role regarding BSE. Questions included: Do government monitoring programs to handle mad cow disease make the food supply safer? Is the government doing enough regarding mad cow disease? Is mad cow disease likely to cause a national crisis in the future? Just under half (49%) of the respondents strongly believed that the government monitoring programs put in place to handle mad cow disease made the food supply safer. Opinions on the government's response to mad cow disease revealed that 41% of respondents strongly believed that the government was doing enough, and that 26% moderately believed this to be the case. In terms of a future crisis arising

from BSE, 30% strongly believed the crisis would happen and 29% thought it was moderately likely to occur.

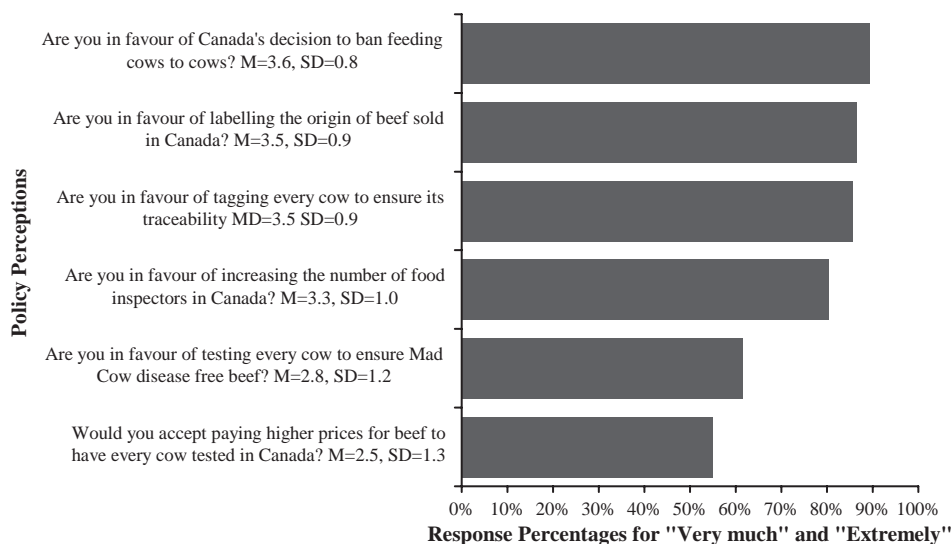
**Perceptions of Policies Related to BSE.** The survey addressed the perception of public policies specifically targeted at mad cow disease by asking, "Are you in favor of: Canada's decision to ban feeding cows to cows, labeling the origin of beef sold in Canada, tagging every cow to ensure its traceability, increasing the number of food inspectors in Canada, and testing every cow to ensure mad cow disease-free beef?" The findings reveal that Canadians were strongly in favor of most of the BSE-related policies. In fact, as shown in Figure 3, the policy for which respondents were the most in favor (89%) was banning feeding cows to cows. Moreover, respondents were strongly in favor of labeling the origin of beef sold in Canada (87%), of tagging every cow to ensure its traceability (86%), and of increasing the number of food inspectors in Canada (81%). However, when asked if they were in favor of testing every cow to ensure the absence of mad cow disease, respondents were not as approving; only 62% of respondents were very much or extremely in favor. Moreover, only 55% of respondents would very much or extremely accept paying higher prices for beef to have every cow tested in Canada.

**Level of Confidence in Various Agencies/Groups.** Participants were asked about their level of confidence in the response of various agencies to a discovery of a case of mad cow disease in Canada. They were asked: "How much confidence do you have in the following groups: government inspection agencies, government health agencies, politicians, the beef industry, research scientists?" In relation to the previous question, the group that merited the highest confidence of the Canadian general public was research scientists (69%). Groups such as government inspection agencies and government health agencies merited

good but more modest ratings, earning respectively 41% and 48% of respondents' confidence. On the other hand, the group that Canadians had the least confidence in was politicians (9%).

**Reactions to Authorities' Recommendations.** Participants were asked to rate how they would react to various sources' recommendations regarding the safety of beef. Specifically, they were asked: "How much would you change your beef consumption, if asked to do so by: government inspection agencies, government health agencies, politicians, media, Internet, the beef industry, research scientists, and friends and relatives?" A significant number of the Canadian public (66%) would strongly agree to this recommendation if it were made by research scientists. Other sources that could influence the respondents to change their beef consumption were government health agencies (64%) and government inspection agencies (59%). Sources that would have no or little influence over respondents' beef consumption habits included the Internet (55%), politicians (53%), and the media (46%).

**Credible Information Sources.** Participants were asked: "When you want credible information about mad cow disease, to what extent would you turn to the following sources: government inspection agencies, government health agencies, politicians, the beef industry, research scientists, friends and relatives, health professionals, the internet, television, radio, newspaper, public information brochures, and scientific journals?" A large portion of the public (70%) would turn to research scientists the most for credible information on mad cow disease. This finding echoes results from our previous surveys (Krewski et al., 2005, 2006). Health professionals were the second highest credible information source, with 68% of respondents claiming they would very much or extremely turn to them. On the other hand, politicians were rated among the lowest credible source of information, as 71% of respondents



**FIG. 3.** Perceptions of policies related to BSE. M, Mean risk perception: not at all = 1, a little = 2, moderately = 3, very much = 4, extremely = 5, SD, standard deviation.

would not at all or only a little turn to them for information. Moreover, the media in general was not considered a very highly credible information source, including the Internet, television, and radio, receiving respectively the strong favor of only 21%, 22%, and 21% of the Canadian public.

## SUMMARY AND DISCUSSION

This study represents one of the first attempts to investigate and benchmark risk perceptions and risk acceptability of prion diseases and food safety within a representative sample of Canadians. The study provided a number of interesting findings, the majority being in line with findings of our focus groups.

First, mad cow disease and chronic wasting disease rank low as a source of worry to Canadians. Among 18 food items, mad cow disease ranked 12th, with much higher risk levels allocated to food items such as growth hormones and imported food. This indicates that Canadians do not perceive mad cow disease as a very salient risk, which is a finding that is compatible with the focus groups results. In qualitative interviews, participants explained that a possible reason for this view of mad cow disease was the perceived low probabilities of occurrence and infection. The focus groups also revealed that higher and more significant media coverage on other health risks such as avian flu or *Escherichia coli* plays a role in the low perceived risk of BSE (Lemyre et al., 2007).

Participants perceived the risk of mad cow disease as higher for the health of other Canadians than for their own health. This echoes the commonly observed phenomenon of optimistic bias, a theory that describes people's tendency to view the risks as lower for themselves than for others (Hoorens & Buunk, 1993; Perloff, 1987; Taylor, 1989; Weinstein, 1982, 1987).

The results of this survey really point to the fact that, for most Canadians, the mad cow crisis was less of a public health issue than an economic, political, social, and foreign trade issue. For example, according to the general public, the most likely consequence of the discovery of mad cow disease is that countries will stop importing Canadian beef. Clearly, the health risk associated with prion diseases is not a major concern to Canadians, and reframing prion disease risk as an economic and sociopolitical issue would better match Canadians' understanding of the nature of this risk issue.

Other consequences of a discovery of a case of mad cow disease include the bankruptcy and the psychosocial distress of farmers. In fact, the stronger risk perceptions regarding economic issues, as well as the psychosocial consequence of a potential crisis on the farmers, might be related to the extensive coverage of those facets of mad cow disease by the media in previous outbreaks of the disease. Nonetheless, it seems that it is indeed the economic impact of a future outbreak of BSE that is considered most likely to affect the lives of the majority of individuals in Canada, rather than the direct personal health impact.

Participants were somewhat familiar with the last BSE crisis and they are somewhat knowledgeable about the disease. Overall, respondents felt well informed about the nature of mad cow disease. Participants also rated themselves as being rather familiar with the last crisis, with almost half of participants answering that they were very much or extremely familiar with the last crisis. Nevertheless, there is still work to be done in informing Canadians about the nature of mad cow disease. For instance, the public should be more informed regarding the symptoms an animal can show if infected by the disease, the human transmissibility of the disease, and also whether wild game can develop diseases similar to mad cow disease.

A small number of participants reported having modified their beef consumption after the 2003 crisis, but the results showed that a much higher percentage would change their diet if another crisis were to occur. These findings seem to reflect unrealistic optimism, which is the tendency to believe that the present is better than the past and that the future will be better as well, especially when it relates to oneself (Armor & Taylor, 2002). The fact that a significant number of Canadians reported they would modify their diet if another crisis were to occur reflects that they have a belief they could deal with another BSE outbreak. However, if individuals who reported that they would stop eating beef actually did so, it would have marked financial consequences for the beef industry. For example, during the 2003 outbreak net farm income was under the average by 3.5% compared to the preceding 5 years (Statistic Canada, 2005).

About half of the respondents believed that the current government monitoring programs, which were put in place to handle mad cow disease, make the food supply safer and that the government was doing enough. Focus-group results also concluded that Canadians are somewhat satisfied with current government initiatives. Some focus-group participants wanted to believe that the measures and the standards Canada put in place were adequate and efficient. They stated that the few cases Canada has had are evidence that the measures currently in place are adequate. However, if an outbreak of mad cow disease were to take place, they would lose trust in their government. In addition, almost all focus-group participants thought that there should be more information given to the public regarding the measures the government has taken concerning BSE (Lemyre et al., 2007).

In terms of policies regarding mad cow disease, the survey findings reveal that Canadians are somewhat prepared to pay a premium to have a safer food supply, although not to the same extent that they wish for extra measures such as a ban on feeding cows to cows and labeling the origin of beef. It is possible that some individuals felt less strongly about this policy than others because they were aware of the expenses it would incur. It is important for policymakers to take these findings into consideration if they are contemplating such measures. It would also be interesting to find out what factors play a role



into making these different policies more or less acceptable for the Canadian general public.

Canadians value research scientists as the most trustworthy sources of information: They have the most confidence in them, would seek credible information from them, and would also comply the most with recommendations made by them. Canadians reported these findings while there was no BSE crisis. However, as a point of comparison, research scientists were somewhat mistrusted following the BSE crisis in Europe (Green et al., 2005): It would be interesting to see if the same thing would happen in Canada if another crisis related to mad cow disease were to occur. Trustworthiness can be considered more important than expertise—it is crucial to take this into account when establishing effective risk communications strategies (Smith et al., 1999). Moreover, only a small number of Canadians would turn to politicians, the Internet, or the media for information regarding mad cow disease, or follow their recommendations. This finding may be due to a lack of trust in the mainstream media and politicians. This could be explained by previous treatment of the issue of BSE by the media and politicians, who were perceived as sometimes hiding some uncertainties or risks related to mad cow disease (Miles & Frewer, 2003; Shaw, 2002). Even though the Internet was rated as a somewhat noncredible source of information, this medium should not be completely discarded as it is easily accessible and convenient for many Canadians. Policymakers, therefore, need to communicate the risks associated with BSE more effectively on the Web; they should ensure the posted information is more credible and more reliable (Krewski et al., 2006).

A survey, such as the one described, entails certain limitations. Random-digit dialing was used to select participants. Although this provides access to the majority of households in Canada, it does carry some selection bias due to nonresponses, participation refusals, and caller identification. Wording of questions may convey ambiguity and further multivariate analyses could enrich the interpretation. Comparisons between subgroups, and across time, will also provide a better understanding of attitudes and opinions toward BSE risks.

To conclude, the goal of this study was limited to presenting descriptive statistics on the risks of mad cow disease for Canadians. The key message does not reside in whether Canadians are right or wrong in their assessment, but rather in taking stock of their perceptions and concerns. Risk communication is more likely to be effective if we understand where the audience stands on the issue. Moreover, support for new policies will develop only insofar as it matches the needs and views of the Canadian public.

Results highlight the concerns, the opinions and the needs of the Canadian general public regarding the risks of BSE. Many of the results presented in this article were consistent with information gathered through focus groups (Lemyre et al., 2007). These findings can also be useful for risk managers and have implications for risk communication strategies and policies. Results will allow us to situate how prion risks are assessed

and articulated as well as how policymakers can make use of this information in order to identify BSE risk management priorities. It is important to take into consideration how the Canadian public constructs its risk perceptions and risk acceptability of prion diseases in order to develop effective risk communication. Further in-depth analyses are warranted, especially on the functional interrelationships among the variables examined in the survey.

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