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International Case Studies of Psychosocial Ripple Effects of Bovine Spongiform Encephalopathy (BSE) in European Countries

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The public is increasingly concerned about risks associated with food. Food-borne diseases can easily mobilize public concerns and create strong emotional, behavioral, and political reactions with significant negative economic and psychosocial outcomes. This was observed in various countries globally experiencing the presence of prion disease bovine spongiform encephalopathy (BSE). This study highlights case-study material from various countries for key psychosocial impacts such as the public's worry and fear vis-à-vis beef consumption and the loss of confidence and trust in authorities stemming from the occurrence and management of the BSE crisis. These psychosocial impacts and resultant public behavioral responses are presented at a number of levels including individual, family, community, and societal for several European countries, with special emphasis on the UK case study. Given failures to identify the scope of individual concern about prion diseases, and to address these concerns in decision-making processes and risk communication strategies, there remains a need for further systematic research and psychosocial monitoring of the ripple effects of BSE.

The experience of different countries can be helpful in anticipating the impact of an issue and a comparative analysis is useful to better understand factors at play. In using a multilevel unit of analysis (i.e., individual, family, community, and societal), in documenting the experiences of selected countries in dealing with bovine spongiform encephalopathy (BSE), it is possible to trace how individual psychosocial effects ripple outward, impacting larger social systems. Published investigations on the impact of BSE revealed that even a single reported case may lead to: (1) significant public concern about human health; (2) an interruption of international and domestic trade in cattle and cattle products; (3) changes in dietary habits and routines; and (4) a loss of confidence in the ability of public authorities to protect public health. The impact of BSE goes beyond the epidemics. Effects rippled across various European countries, albeit with different intensities and durations, as the BSE crisis unfolded over time. The intent of this study was to provide a short descriptive of the ripple effects in the United Kingdom, France, Germany, Belgium, and Italy for two notable psychosocial impacts: on beef consumption and on trust in information sources and in government agencies. Research findings were organized by different levels of social system, i.e., individual, family, community, and society at large. It should be noted that, because the levels examined are broad in scope, the material from which statistics were generated is a mixture of methods and sampling techniques from both survey data and official statistical records. More analysis is needed in order to conclusively quantify the underlying causes of the public's behavioral responses.

METHODS

A literature search of social effects of BSE crises yielded seven papers that were dissected for empirical evidence of impact of BSE. Seventeen countries were considered. A synthesis of findings was tabulated. Among categories of impact, two are reported here, meat consumption and trust in authorities for the United Kingdom, France, Germany, Belgium, and Italy.

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Individual Level

Avoidance of Beef/Decreased Beef Consumption. With increased awareness of BSE in the United Kingdom, particularly after the UK announcement in March 1996 about the possible linkage of BSE with its human equivalent, the variant Creutzfeldt–Jacob disease (vCJD), beef consumption fell precipitously among the general public (Burton & Young, 1996). In a quantitative survey of meat consumers in Belgium, Verbeke and Viaene (1999) found that beef consumption fell 18% during the period 1995–1997. In France, Latouche et al. (1998) noted that 25% of the public changed their consumption patterns. Six percent stated they did not eat any meat; before 1996 the number was only 2%. In a study by Fearne et al. (2001) on perceived risks associated with fresh beef, over half the Italian respondents indicated a change in consumption patterns between 1996 and 1999, with the majority (85%) indicating a reduction in beef consumption. For the same period, though, only 18% of German respondents indicated a reduction in beef consumption. When Germany did experience its own cases of BSE, in November 2000, beef consumption fell between 50–80 percent (Weitkunat et al., 2003).

In the countries reviewed, worry and fear about BSE and beef consumption did abate over time (Green et al., 2005). While individuals were clearly worried about the possible effects of beef consumption, and reduced their consumption accordingly, some expressed fatalism about the risks associated with BSE (Shaw, 2004) and did not alter their dietary behaviors. Setbon et al. (2005) in a French study noted that the more people changed their beef consumption, the more the behavior was determined by perceived risk. Although worry was a determinant of perceived risk, it was balanced by a "preference for beef." A study in Belgium found that meat consumption frequency impacted intentions to reduce fresh meat: Heavy meat consumers were less inclined to cut their consumption, while consumers with lower frequency consumption levels were more likely to reduce their intake further (Verbeke et al., 2000).

Information Sources. In seeking information about BSE, individuals in the United Kingdom trusted information provided by their family and friends more than that provided by various government agencies (Smith et al., 1999). In studies covering Germany, Finland, Italy, and the United Kingdom, many placed confidence in the local butcher as someone who could be relied upon to provide good-quality, safe food (Becker et al., 2000; Green et al., 2005). Green et al. (2005) also noted that to some extent, scientists were mistrusted. The public reported frustration with the uncertainties of expert advice, while others were skeptical of expert neutrality. Rosati and Saba (2004) in an Italian study found that the reliability of knowledge held by agencies about human health risks related to food hazards and the perceived trustworthiness of the sources of information were two important factors of consumer trust. The most trustworthy information sources were consumer associations, research institutes, and environmental nongovernmental organizations (NGOs). These information sources were perceived as the most knowledgeable about the risks, the most concerned about protecting human health, and the most honest in terms of completeness of information.

Family Level

Changes in Dietary Habits and Purchase Routines. With a decrease in beef consumption in the United Kingdom, household consumption of beef substitutes (poultry, lamb, pork) began to grow (Caskie et al., 1999). In Belgium, families with children were concerned about meat health issues, with more health-seeking and risk-avoiding decision making in food choices (Verbeke et al., 2000). Preferences moved away from prepared/take-away meals, imported food, and processed beef products to home-cooked, local, organic products and more expensive cuts of beef (Green et al., 2003; Shaw, 2004). In Germany and France, members of the public placed an increasing importance on the origin and labeling of their food (Becker et al., 2000: Latouche et al., 1998). A study conducted among six European countries found that the "country of origin" was the most important safety indicator for beef for German consumers; consumers from Ireland, Sweden, and Spain ranked "country of origin" second; and Italian and UK consumers placed "country of origin" third (Glitsch, 2000). In a survey in France, Chatard-Pannetier et al. (2004) found that when purchasing meat, 87% of respondents sought some information, with 55% seeking information on food origin. After the BSE crisis in Germany, consumers, more so female than male, paid more attention to the ingredients of food products than before the crisis (Weitkunat et al., 2003).

Willingness to Pay. Economic dimensions play an important role in risk perception—especially with respect to risk-taking behavior and ability to cope with various stressors. Green et al. (2003) found that for low-income consumers, cost was often a key element influencing food purchases. Shaw (2004) revealed that under low-income circumstances, financial considerations took precedence over potential health risks. In reviewing purchasing behavior in a number of studies, Reynolds and Balinbin (2003) noted that consumers were willing to pay a premium price for risk reduction. Where food safety is concerned, price is often used as a means of reducing perceived risk. Results from a survey in France regarding willingness to pay for beef revealed that a large number of participants linked the notion of good quality with high price (59.3% accepted this for organically grown food and 74% for labeled meat). Thus, they had a higher "willingness to pay" range (Latouche et al., 1998).

Community Level

Trust in and Response by Food Providers. As noted, with the increasing awareness of the BSE crisis, in the United Kingdom and elsewhere, individuals and families began to alter their beef consumption and food purchasing habits. Berg (2004)

indicated that British consumers became accustomed to the insecurity and many consumers reduced their feeling of insecurity by establishing these new habits and routines. Some food providers were mistrusted (e.g., school caterers) because of uncertainty about the origin of beef products while there was increased scepticism about cheaper supermarket products (Shaw, 2004). Partly in response to the food scares, Smith et al. (1999) suggested that a major UK supermarket chain promoted organic and free-range meat products more vigorously. Major fast-food chains stopped using British beef in their burgers and the price of beef dropped, but the demand for prime cuts of beef recovered more quickly than for other cuts (Cade et al., 1998). Reynolds and Balinbin (2003), who found that restaurants with non-beef menus experienced an increase in sales, suggested that promoting products other than beef did not need to be the food industry's only response. The industry has opportunities to educate people about the extent of certain risks and how it is protecting the consumer. Jasanoff (1997) indicated that "some fast food outlets put up signs promising that they would not serve hamburgers until they could establish a secure supply-line from Argentina. Supermarket chains assumed aspects of risk communication and even risk management that ordinarily belong to government agencies. Supermarket chains issued detailed fact sheets that not only vouched for the quality of their beef and beef products, but also explained the precautions being taken to monitor production" (Jasanoff, 1997, p. 224).

Societal Level

Trust and Confidence in Public Authorities. In describing the UK experience with BSE, Jasanoff (1997) used the term "civic dislocation" to emphasize the "mismatch between what governmental institutions were supposed to do for the public, and what they actually did." The BSE crisis resulted in sustained damage to public/consumer confidence in civic governance and food policy (Frewer & Salter, 2002). Pre-March 1996 reassurances of beef safety led to decreased trust in government food policy, and avoidance of beef consumption (Green et al., 2005; Jacob & Hellström, 2000). There was a perception that government, scientists, and the food industry manipulated facts and placed political, scientific, and commercial interests above concern for public health. People believed that the risk was hidden. Thus, there was a decreased confidence in government announcements about risk and decreased confidence in safety of genetically modified food, vaccines, and imported food (Shaw, 2002).

Denying that uncertainty existed was associated with a decline in public confidence in risk regulators (Miles & Frewer, 2003). This was certainly true in Germany when shortly after a government minister confidently declared about BSE "trust us, you are safe", a sick cow was found. The results generated an increased fear of BSE and vCJD, loss of public trust in government, and a dramatic reduction in beef sales (Gray & Ropeik, 2002). By communicating the uncertainties of the situation from the start, state institutions might have commanded more trust (Jasanoff, 1997). In France, notwithstanding the concerns about BSE, the level of worry decreased over time and there was a corresponding increase in the level of social trust (Setbon et al., 2005).

Examining the impact of food insecurity across levels raises some important points. First, communications that are later proven to be inaccurate will only serve to destroy the credibility of the messenger in the eyes of the public and prolong negative impacts. The decision to withhold information, or failing to admit a lack of information must be weighed against the deterioration of public trust in the longer term. Preestablished trustworthy channels to deliver risk communications such as NGOs and consumer organizations will increase the degree of trust in the risk messaging. Information given in a timely fashion can help inoculate the public against negative impacts across levels. If information can be effectively disseminated prior to a food epidemic, then concerns would be addressed in a less urgent context, resulting in more measured individual responses. Individual concerns would decrease pre-event, translating into greater consumer confidence at the community level and greater trust in public authorities at the societal level during the event.

The psychosocial effects of worry and fear on beef consumption and loss of confidence and trust in authorities stemming from the occurrence and management of the BSE crisis rippled out at many levels in Europe. The material just presented catalogued a number of these impacts at the individual, family, community, and societal level. In studying the psychosocial impacts from such a broad perspective, it is possible to consider how local changes can have far-ranging effects. Examination of the ripple effects of BSE in Europe supports the notion that BSE is more than a neurological disease; it is also a social, economic, and political threat deserving more research and analysis.

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