

Scott C. Ratzan, MD, MPA, MA

Human risk from eating beef: Risk communication gone mad

It has been nearly five years since a UK scientific advisory committee linked mad cow disease to a human killer. In 1996, stories of Mad Cow Disease and its supposed link to a human disease heralded it to be the AIDS epidemic the UK never had. In December 2000, the Frankfurter Allgemeine newspaper, compared it to the threat to the Black Death that wiped out three-quarters of the population of Europe in the Middle Ages.

The theory that has caused the crisis is that mad cow disease or bovine spongiform encephalopathy (BSE)—a disease that effects cows – has been spread to humans by eating tainted beef. This leads to an incurable, deadly brain wasting disease called vCJD (variant Creutzfeldt-Jakob disease). In 1996, this scientific announcement and political furor became largest crisis since the Falkland War, according to then Prime Minister John Major.

What is the reality of BSE and vCJD? The purported infectious agent -- a prion – that is smaller than a virus has been identified. The molecular structure of the disease is similar in cows and people. Mad Cow disease and vCJD were principally thought to be confined to the UK. To date there are 83 attributable deaths to vCJD, principally in Europe (80 in UK, 3 in France)

Now five years later, with the sequel replaying with diseased cattle throughout Europe, people fear getting this brain wasting disease by eating beef. Yet, we still do not know how people got vCJD in the first place. The infectious agent has never been found in the meat of cattle. The mode of transmission also has not been replicated in the laboratory.

Additionally, a recent House of Lords report states: There is **no scientific proof** that BSE can be transmitted to man by beef, but this is seen by SEAC (Spongiform Encephalopathy Advisory Committee) as the most likely explanation, and all our control measures are based on the assumption that it is. [*Official Report*, 9 March 1999; Vol. 327, c. 86W.]

Nonetheless, the financial losses in the billions of dollars are evident: thousands of cattle have been culled, farmers livelihoods sacrificed, and the future food supply threatened.

While much has been learned from BSE in the 90s, Mad Cow Crisis 2001, presents a similar panic. The crisis has gone global -- beef boycotts have spread beyond Europe, blood supplies have been threatened by policies that suggest there is a risk in blood donations from people who resided in Europe, and the “outbreak” threatens other products that are made from or contain bovine sources – gelatin, tallow and even pharmaceuticals.

Voila—four years after what the Guardian termed the case that demonstrates the “perils of imperfect policymaking,” history again repeats. Politics, policy and leadership are blurred in protectionist and political dogma. Scientific fact has been overtaken by fear.

This has ramifications for policymakers everywhere who often say they are basing their decisions on science, while politics and public opinion are in charge. Qualifiers of theoretical, hypothetical, negligible and incalculably small mean little to politicians who become more fearful of the fearful public. The answer: policymakers make poor decisions with short-term (read I want to keep my job and cover my you know what) rather than long term (read I want to serve the public good).

Why is the Mad Cow Crisis something to be concerned about in the USA? The parallels for our policymakers are paramount. We can point to the facts --There are no known deaths due to vCJD or any mad cow disease in America. Yet, in the globalized world with goods and services that know no boundaries, facts and fears are universally blurred. The recent recall of genetically modified corn -- despite any known evidence that it could be harmful to human health -- threatens progress. Vaccines, drug products and food supplements have had recent safety challenges

In Summer 2000, the U.S. FDA convened an advisory on bovine sources in vaccines and concluded the risk of BSE transmission to humans was negligible and theoretical with a one in twenty billion probability. Yes, that means there are not enough people on the planet for one case to be present. Rest assured, there are no worries about vaccine safety in America. [My 18 month son has had all over 15 doses of vaccines to date.]

What we should fear the most is not Mad Cows in Europe, but the policymaker’s response. We do not need a new hypothetical threshold redefining a precautionary principle for vaccines, drugs and food products.

The World Health Organization was built on a premise embodied in the preamble to their constitution: “Informed opinion and active cooperation of the public are keys to advancing health.” We must demand such informed opinion of our policymakers to cooperate with the experts and the public to develop ideal decisions.

While many people would like to make their own informed decision about the food they eat, many questions remain - how much of the what we supposedly know is “right” (read factual or even truthful) is the right amount to communicate? How well-informed are the politicians and policymakers to be able to make decisions that ultimately serve the public good? And where can professional organizations and so-called consumer advocacy groups rely upon to get impartial information and the facts?

With such dilemmas, there is no surprise that a media feeding frenzy can easily ensue. Data, information, facts, and knowledge become slanted to the conflict and context. While it may be a right for opinion leaders, policymakers and those responsible for communication with the public to disseminate the latest information, it must be done in the right way with high ethical standards involving various stakeholders in the decision. We must beware of communicating risk in a way that can cause havoc leading to regulations that stifle science, with politics superceding public health. The stakes are high - the confidence in the food supply, scientific progress, and the health and well being of the public.

Scott C. Ratzan MD, MPA is author of the *Mad Cow Crisis: Health and the Public Good* (1998, NYU Press). He is editor of the *Journal of Health Communication* and on the faculty of Yale University School of Epidemiology and Public Health, George Washington University and Tufts University School of Medicine. (sratzan@aol.com; 202-712-5022)