

# Commentary

## Psychologic first aid and veterinarians in rural communities undergoing livestock depopulation

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Natural pandemics of foreign animal disease (FAD), such as highly pathogenic avian influenza (AI), and agriterrorist threats, such as foot-and-mouth disease (FMD), have pushed US veterinarians to new states of readiness for disease recognition, control, and eradication. Regardless of the cause of animal disease, a likely outcome of an incident of severe disease is depopulation of the affected flock or herd. Depopulation refers to the killing of animals efficiently and quickly under extenuating circumstances, such as animals with a zoonotic disease, during rapidly spreading outbreaks, or when animals are isolated by natural disaster.<sup>1</sup> It is in the days to months following a depopulation event that local food supply veterinarians may make their greatest social and professional impacts on farm families and rural communities.

In terms of disaster planning, the veterinary profession under federal leadership seems to have invested most of its effort in the recognition of FMD, a proposed agriterrorist agent, and AI, both of which are severe economic threats. No doubt FMD and AI are real threats in our globalized and terrorized world. However, preparation for recognition and eradication of a specific disease seems to be the middle step in three layers of disease preparedness: prophylaxis, biosecurity as a means of surveillance and control of disease and enhanced productivity; therapeutics, recognition, control, and eradication of FAD, emerging diseases, and FMD; and rehabilitation, care of the rural community, and repopulation of livestock.

Biosecurity, under various names, was once the driver of veterinary medicine in the United States, transforming US livestock production from a cottage industry in 1884 to a global supplier of meat, hides, hair, broodstock, and power, following the eradication of contagious bovine pleuropneumonia in 1892.<sup>2</sup> Today, biosecurity has the potential to increase producer profit and veterinary income and to serve as an early warning system for emerging disease and FAD and agriterrorism. An explosion of protocols for biosecurity has appeared on the World Wide Web, many developed by producer groups and extension departments for the specific species under cultivation.<sup>3</sup>

Efforts abound for FAD education to increase veterinary and producer awareness of FADs, as has been seen with activities related to FMD and highly pathogenic AI. These efforts culminate in disease eradication, and although various strategies are still being weighed and discussed, livestock depopulation is still the principal strategy. Given our reliance on depopulation as a key mechanism in disease eradication, the consequences of that action must be examined and the role of veterinarians in the postdepopulation environment must be delineated.

Several factors speak to the need for attention to the care of the rural community after depopulation of livestock, the first being the World Health Organization's definition of veterinary public health: "The contribution to the complete physical, mental, and social well-being of humans through an understanding and application of veterinary medical science."<sup>4</sup> The 2001 FMD outbreak in the United Kingdom provided some US veterinarians with valuable experience in a national disease eradication event, including observation of some of the effects of depopulation on farm families and rural communities. During the most intense periods of new case discovery and depopulation, some veterinarians were involved in depopulation for many days in succession. In addition to overseeing euthanasia and disposal, veterinarians were the principal contact, purveyor of bureaucracy, and source of information for the farm owners. These roles were additional stressors in often emotionally charged environments. At best, the effect on US veterinarians could be described as disheartening, with one downcast observer saying that his pride in the profession was "making cattle, not killing them."

By the time the epidemic peak was reached, the potential effects of the stress of participation in the eradication effort and the potential for posttraumatic stress disorder were recognized. Veterinarians and technicians were debriefed after 30-day tours of duty before returning to the United States. Debriefings consisted of introductions of facilitators and participants, guarantees of confidentiality, instruction and written material on posttraumatic stress disorder, and discussion of stresses and responses experienced by individuals in the group. Stressors included inadequacy of training in technical protocols, inability to control chaos, insufficient interpersonal skills for such circumstances, and lack of preparation for the consequences of decisions made. Responses included a variety of negative psychosomatic, emotional, and behavioral reactions.

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Livestock owners in the United Kingdom met the FMD eradication effort with an array of responses befitting the vast numbers of those affected. Some welcomed the financial relief of indemnity payments. Many called for veterinary inspection of sick or otherwise potentially infected animals knowing that it might be their undoing. Most accepted inspection and, when necessary, depopulation, grudgingly. Many would not be present during the removal of their livestock. Some were angry, and a few became violent. The rare suicides were most widely publicized. Regardless, the need for training to aid veterinarians with the gamut of psychologic and emotional responses became apparent.

The livestock impact of the FMD outbreak in the United Kingdom was about 6 million cattle, sheep, and swine killed and a loss of approximately \$6 billion, divided evenly between agriculture and tourism.<sup>5</sup> These numbers do not include the financial or social failure of farms, stores, or tourist facilities that closed because of bankruptcy or mental status. Also not included is a summary of environmental damage. However, the impact on residents of rural areas of the United Kingdom was even more profound in both economic and psychologic terms.<sup>6</sup> Income from farming activities in Cumbria, England, was 60% below normal, with an additional loss of 17% in diversified undertakings, equestrian activities, hunting tours, bed and breakfast services, and campground income, for example. Also lost was 15% of off-farm employment.<sup>6</sup>

The social and psychologic impacts were felt not only by farmers and their families, but also by all members of the rural community. The emotional and financial impacts of this epidemic will persist longest in those areas hardest hit, and the sociology of farming and rural life will be studied intensely (Appendix 1).<sup>7</sup>

The role of veterinarians in care of the rural population is completely novel in the United States, and the question is one of preparation and participation for the profession.<sup>8</sup> The rapidly changing state of our national disaster readiness speaks to ever-expanding roles for all health professionals, and if we do not lead, much less include ourselves, we will be left out and regarded as less than crucial in the readiness efforts.<sup>9</sup>

During World War I, battle fatigue and shell shock were recognized as likely consequences of exposure to injury, death, and dying, but also were seen as treatable clinical entities.<sup>10</sup> In disaster-stricken areas, up to 80% of the casualties can be psychologic.<sup>11</sup> Military psychiatrists soon recognized the value of early psychologic intervention as a means of mitigating acute distress as well as assisting those affected in their return to functioning.<sup>10,11</sup> The core principles of effective early psychologic intervention are proximity (treatment provided near the site of conflict), immediacy (treatment as soon as the first signs appear), and expectancy (the realization on the part of both therapist and soldier that return to conflict was expected). Soldiers referred to the program as, "Three hots (meals) and a cot."

From these experiences during wars over the past century and observations from more recent civilian disasters, professionals in disaster mental health services have developed and tested methods in early psychologic intervention, often referred to as crisis intervention.

Reflecting on the success of the military and considering more recent studies suggesting the effectiveness of crisis and disaster mental health intervention that cite two to three contacts with victims as optimal, there has been a call for consideration of a form of early psychologic intervention now referred to as psychologic first aid (PFA). According to the Institute of Medicine,

Psychological first aid is a group of skills identified to limit distress and negative health behaviors. ...PFA generally includes education about normal psychological responses to stressful and traumatic events; skills in active listening; understanding the importance of maintaining physical health and normal sleep, nutrition, and rest; and understanding when to seek help from professional caregivers.<sup>12</sup>

Recommendations have emerged that all public health professionals be trained in PFA, noting that the basic core competence, reflective listening, "can be taught rapidly and effectively to those without formal mental health training."<sup>13</sup> Eight core competencies for health practitioners have been identified (Appendix 2).<sup>12,13</sup> The Johns Hopkins Center for Public Health Preparedness, housed in the Johns Hopkins Bloomberg School of Public Health, has recently developed a six-hour training program in PFA for public health and other personnel who possess no formal training in mental health. The goal of such training is to empower those personnel to address the acute psychologic needs of people in distress as a result of exposure to trauma, disasters, and public health emergencies.<sup>14</sup>

Rural veterinarians may also assume leadership in the community during an outbreak of a FAD. This may involve mobilizing disparate social support networks and hotlines as well as providing printed information directly to farmers or in gathering places such as churches and grocery stores. In the United Kingdom epidemic, moratoria on farm mortgages were also widely initiated by banks.

Evidence from the 2003 severe acute respiratory syndrome (SARS) outbreak clearly demonstrates the values of training and the advantage of years of experience when addressing stressful clinical situations.<sup>15</sup> In the absence of training and experience, many health care workers developed symptoms of long-term job stress as measured by decreased patient contact hours; increased absences from work; and increased use of tobacco, alcohol, and other maladaptive coping mechanisms. Training and experience that tended to increase resilience in health care workers were not sufficient to ameliorate acute or long-term job stress related to epidemic control; rather, health care workers need a strong, ongoing administrative support system to sustain efficacy and morale. We recommend providing open communication paths and a role in decision making to bolster workers. Clearly, these aspects of epidemic control have not been addressed in regulatory veterinary medicine but pose the same real problems as we anticipate pandemic influenza or as we are called on to confront the next great animal plague.

Just as veterinarians make commitments to rural economic health through animal care, they may also make a commitment to community health through organization and participation in depopulation preparedness. Just as the war in Iraq is hung on establishing peace, so will the veterinary profession be judged by how the postdepopulation countryside returns to normal. The idea that food supply veterinarians should embrace techniques and issues described as warm and fuzzy is foreign to practice culture; however, preparation to meet our clients' emerging needs must evolve as threats and knowledge for remediation expand.

Regardless of the cause of the depopulation event, we believe that veterinarians, first response organizations, and regulatory agencies can be better prepared if they have done the following:

- Convened a forum or discussion group addressing the nonveterinary medical aspects of depopulation and the health of the postdepopulation environment.
- Evaluated available PFA programs and made those programs available to veterinarians and other responders.
- Developed the means within the Incident Command System to ensure the support of veterinarians engaged in depopulation events by including participants in decision making and by including ongoing technical and psychologic support for those veterinarians.

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## Appendix 1

Social and psychologic effects of foot-and-mouth disease depopulation on farmers and farm families and by rural communities in the United Kingdom.<sup>4</sup>

Farmers and their families
Grief over animal loss
Distress over animal welfare and care
Loss of sense of control
Legislative and personal isolation
Overwhelming financial problems
Increased tendency to suicide
Trauma to children
Witnessing slaughter of stock
Witnessing parental distress
Rural Communities—Business
Financial loss and uncertainty
Absence of indemnity
Rural Communities—Depopulation (Cull) Workers
Working with distraught people
Long hours and hard conditions
Rural Communities—Community Life
Loss of cohesion
Disruption of predictable community events

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## Appendix 2

Eight intervention-oriented competencies for psychologic first aid for disaster victims.<sup>10</sup>

Demonstrate active listening skills.
Prioritize and respond to human needs.
Recognize and provide information on mild psychologic and behavioral reactions.
Recognize and provide information on potentially incapacitating psychologic and behavioral reactions.
Teach acute stress management techniques.
Recognize and reduce risk factors for adverse outcome associated with intervention.
Recognize how and when to use informal and formal resources for interpersonal support as well as how and when to refer to more formal mental health care.
List techniques that constitute effective self-care.