

# Infection Control in Veterinary Clinics

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**A** veterinarian and her staff sit around the animal treatment room having lunch, their sandwiches, chips, and soda cans spread out on the exam tables and counter tops. Earlier that day a puppy with a four-day history of diarrhea was examined on the same surfaces. After sending a stool sample off for testing, the puppy was diagnosed with a *Salmonella* infec-

tions include SARS, West Nile virus, and monkeypox. All of these examples are considered zoonotic diseases. In fact, 75 percent of emerging infections have been classified as zoonotic in nature.

An emerging zoonotic disease could first be seen in a veterinary clinic and could subsequently spread to the human population. For example, monkeypox was first seen in rural veterinary practices, with twenty veterinarians and staff members infected with the novel virus by the end of the national outbreak. Controlling emerging zoonotic diseases is one of the reasons veterinarians need to have infection control guidelines in place and why they must practice good infection control procedures at all times.

## Survey on practices

Despite the obvious need for infection control guidelines by the veterinary community, a survey of Wyoming veterinarians conducted in April 2004 by the Wyoming Department of Health (WDH) revealed that only one quarter (25 percent) of veterinary clinics have such guidelines in place. Furthermore, several principal infection control practices are not part of Wyoming veterinarians' daily professional routines.

Seventeen out of 23 Wyoming counties are considered rural or frontier, with populations of less than 25,000 people. The state has approximately 160 veterinary clinics and just under 300 veterinarians, who mostly belong to the Wyoming Veterinary Medical Association (WVMA).

The Department of Health staff created a two-page written survey and mailed it to all veterinarians in the state. The survey questions focused on infection control practices of veterinarians. A total of 41 percent of Wyoming veterinarians and 56 percent of Wyoming veterinary clinics responded. Twenty-one out of Wyoming's 23 counties were represented by the number of veterinarians who replied to the survey.

## The survey results

Hand hygiene is considered paramount to reducing the spread of infection among susceptible populations. The Centers for Disease Control and Prevention (CDC) listed hand washing as the number one recommendation to reduce the spread of infectious disease transmission during the 2003 monkeypox outbreak in the Midwest. Most of the Wyoming veterinary clinics appear to be doing well in this area of infection control. Of the veterinarians who responded to the survey, 74 percent had hand-washing facilities in every exam room. Additionally, 77 percent of the veterinarians reported always washing



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Veterinarian and veterinary student with patient.

tion, a bacterial disease that can cause gastrointestinal illness. A few days later, several members of the veterinary staff come down with severe watery diarrhea. After testing, many of the veterinary staff also tested positive for *Salmonella*.

This scenario could occur at many veterinary clinics in the United States. Many clinics do not have a separate break room for their employees so they often eat in animal treatment areas without thoroughly disinfecting the area prior to eating. This is just one practice that may make veterinary clinics a source for the spread of a zoonotic disease.

A zoonotic disease is defined as a disease that can be transmitted from a vertebrate animal to humans. There are many commonly known zoonotic infections, such as *E. coli* O157:H7 and *Salmonella* but there are also a number of lesser-known infections. Many emerging infections—which refers to infections that are newly identified, have recently been reported in a new geographic region, or have recently undergone some type of change to make them seem like they are reemerging in an area—can cause severe disease in humans and can even lead to death. A few examples of recent emerging infec-

their hands between patients, and 22 percent reported sometimes washing their hands between patients.

Disinfection of exam rooms between patients is also essential to prevent the spread of an infectious disease. Here again, Wyoming clinics are doing quite well. Of the responding Wyoming veterinarians, 89 percent disinfected exam rooms between patients all of the time, and 9 percent reported they sometimes disinfect rooms between patients. Despite compliance by most practices, however, even a small number of non-compliant clinics could cause a large-scale outbreak.

The most concerning data obtained from the survey, however, was that nearly half (48 percent) of the veterinarians and their staff eat in animal treatment areas.

Eating in animal treatment areas is a particular concern because a number of bacterial and parasitic intestinal infections of animals can routinely result in human infection.

### Best practices

Several procedures can be implemented by veterinary clinics to improve infection control practices, minimizing the spread of zoonotic diseases in veterinary clinics. Having infection control guidelines or written protocols in place is one item the American Animal Hospital Association (AAHA) requires for accreditation. CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC) have created an extensive document entitled *Guidelines for Environmental Infection Control in Health-Care Facilities*. Many items in these guidelines may also be applicable to veterinary clinics.

One key element in infection control is hand hygiene. Simple hand hygiene prevents cross-infection. However, adherence to guidelines is often poor among health care workers. Additionally, failure to perform appropriate hand hygiene has been recognized as a substantial contributor to outbreaks as noted by the Hand Hygiene Task Force of the HICPAC in an article published in the *Morbidity and Mortality Weekly Report*. To improve hand hygiene the committee recommends signs be placed in appropriate areas to remind workers of the importance of hand hygiene, and alcohol-based hand disinfectant should be made available in areas where hand-washing stations are absent.

Additionally, it has been shown, as noted by CDC, that wearing disposable gloves when handling contaminated wounds, soiled bandages, fecal material, or bodily fluids can reduce hand contamination by 70 to 80 percent, prevent cross-contamination, and protect patients and health care workers from infection.

Basic rules for the disinfection of equipment that could be contaminated by fecal material or body fluids should also be implemented. These instruments should be thoroughly disinfected between uses. Additionally, a disinfectant should be used in all exam rooms between every patient regardless of the procedure performed. A bottle of disinfectant should be kept in an easy-to-access location in each room, and all workers should use the disinfectant as part of their daily routine. These general precautions

are defined in the Biosecurity Standard Operating Procedures of Colorado State University's Biosecurity Web site.

The Occupational Safety and Health Administration recommends that food for human consumption of any kind should not be allowed in medical rooms, the kennel area, or bathrooms of a veterinary hospital. Therefore, if possible veterinary practices should have a separate break area for employees. This could be as simple as providing a picnic table in an outdoor courtyard or an area separate from the clinic. If a separate area is not possible, it is recommended that employees wash and disinfect counters and other surfaces where food contamination could occur, prior to eating.

If an outbreak is suspected, local veterinarians should

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notify the state or federal veterinarians and the department of health immediately. Urgent response time to an infectious disease outbreak can help prevent further animal infection as well as prevent human infection. Currently in Wyoming, as revealed in the survey, only 83 percent of the responding veterinarians know whom to contact if they suspect an infectious disease outbreak. Educating veterinarians about whom to contact and when needs to be a primary focus of state agencies and federal agencies. Health departments and state veterinary departments must work together on these issues, as well as on maintaining open lines of communication. ■

### Authors

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### Resources

Centers for Disease Control and Prevention. *Monkeypox Infections in Animals: Updated Interim Guidance for Veterinarians*. [www.cdc.gov/ncidod/monkeypox/animalguidance.htm](http://www.cdc.gov/ncidod/monkeypox/animalguidance.htm). Accessed 11/23/2004.

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