

earliest reported onset of illness was on May 15, 2003. For the majority of patients (22 (73 percent)), a febrile illness has either preceded or accompanied the onset of a papular rash; respiratory symptoms (16 (64 percent)), lymphadenopathy (14 (47 percent)), and sore throat (10 (33 percent)) also were prominent signs and symptoms. The rash typically progressed through stages of vesiculation, pustulation, umbilication, and encrustation. Early lesions became ulcerated in some patients. Rash distribution and lesions have occurred on the head, trunk, and extremities; many patients had initial and satellite lesions on palms, soles, and extremities. Rashes were generalized in some patients. No fatalities have yet been reported in the United States although the case fatality rate in remote and medically underserved areas of Africa is between 1 percent and 10 percent (Ref. 26).

We lack data to estimate the value in monetary terms that people might assign to specific reductions in the risk of monkeypox infections.

This rule would also reduce the risk to public health that would result if monkeypox became endemic in the United States. (An "endemic" disease is one that is confined to or characteristic of a particular locality.) The potential risks to humans from exposure to monkeypox established among wild animal populations would be potentially large if the disease were not controlled. Inadvertent contact between infected pets and wild animals could spread monkeypox into established wild animal populations, causing widespread disruption to ecosystems and potentially exposing large numbers of people to a new infectious agent. In Africa, serologic evidence of monkeypox infection has been found in a wide variety of nonhuman primates, rodents, and squirrels; monkeypox virus has been isolated from a species of squirrel in Zaire, but the role of any particular species as a reservoir has not been established. Some species of primates, rodents, and lagomorphs (such as rabbits) are known to be susceptible. Although no infections have been previously reported in dogs or cats, these species may also be susceptible to monkeypox (Ref. 27). Thus, there is significant risk that common, native mammalian species, such as squirrels and rabbits, could become reservoirs of this new disease if it were released into the environment. CDC has reported that a pet rabbit treated at a veterinary clinic that also had an infected prairie dog became ill and died. The rabbit died

spontaneously, but the owner of that rabbit became ill with a disease compatible with the clinical description of monkeypox; however, the rabbit owner was not a laboratory-confirmed case (Ref. 28). This rule would reduce the risk of the monkeypox virus spreading among both species known to carry it, as well as the possibility of it spreading through wild and pet species currently not known to carry it.

Because this interim final rule would be expected to reduce the frequency of monkeypox outbreaks, there would also be a commensurate reduction in outbreak traceback efforts by the Federal Government, as well as possible state and local government efforts. The costs of these traceback efforts would vary depending on the size of the outbreak.

G. Costs

The costs of this interim rule are the lost value to consumers and producers associated with not being able to import, capture, transport, sell, barter, exchange, distribute, or release prairie dogs and certain African rodents. We believe that the costs are not likely to be high, because the monkeypox outbreak has already sharply curtailed the trade in prairie dogs, as described above. This curtailment occurred prior to Federal regulatory action. Unfortunately, we lack data on the magnitude of trade that has occurred since the outbreak was publicized in June, and so we present instead data from before the outbreak. These data overstate the costs of the rule insofar as they ignore the reduction in volume of trade likely already to have resulted from the outbreak itself. Indeed, if the data shown in Figure 1 are representative of broader and long-lasting market conditions, then the interim final rule's prohibition has no impact on sales of prairie dogs as pets because trade has vanished as a result of the outbreak. If the trade in prairie dogs would otherwise have resumed in the absence of this order, then costs would occur. Although we do not have trade data for the other listed animals during the same periods, we surmise that similar reductions in trade of these animals has also occurred.

Generally, the trade in prairie dogs falls into several categories. In terms of volume, the largest category with the greatest number of animals traded involves the market for pets. There are currently about 10 to 15 million prairie dogs in the United States (Ref. 29). In 2001, 30,000 prairie dogs were sold for pets (Ref. 30). About 15,000 of the 30,000 sold were captured in Texas by registered dealers (Ref. 31). Some 15,000 are exported annually (Ref. 29). Sales over the last few years have remained

relatively constant, with sales and prices slightly down since Japan, the largest foreign market, banned importation of prairie dogs on March 1, 2003.

Typically, pet stores purchase prairie dogs from dealers for \$50 to \$60 each, and re-sell to pet owners for about \$150 each (Ref. 32). If average retail prices of prairie dogs were \$150 prior to the monkeypox outbreak, annual prairie dog sales in the pet market would appear to be \$4.5 million, although this estimate must be seen as very approximate because it is based on a market survey.

A ban on the capture, transport, sale, barter, exchange, distribution, or release of prairie dogs would have a noticeable effect on prairie dog trappers who supply the pet market, if it occurred in the absence of an outbreak. Prairie dog trappers would not be expected to incur serious economic effects this year because the peak of the prairie dog sales season (April through June 1) has passed (Ref. 32). A permanent prohibition on transportation of prairie dogs, however, could have a very serious effect. Suppliers of pet supplies and equipment intended for prairie dogs and the other small, listed rodents may also be affected by this action, but we believe such effects will be small because this equipment may also be suitable for some other mammalian pets, such as hamsters or guinea pigs.

A variety of relocation activities involving prairie dogs are undertaken in part because the Federal Fish and Wildlife Service has assigned at least one prairie dog species a status of "warranted" under the Endangered Species Act. Many of these activities already require permits from State agencies (Ref. 33). We lack information on the scope or magnitude of such activities or how they might be affected by the June 11, 2003, order or by this rule, but would expect some of them to qualify for exemptions.

Another category of trade affected by this rule is zoos, which routinely trade animals for a variety of purposes, although we lack information about the extent of trade in prairie dogs or African rodents. The American Zoo and Aquarium Association (AZA) is the largest zoo and aquarium organization in the world. The AZA's mission is to establish, uphold, and raise the highest zoological and aquarium industry standards. It has accredited over 200 organizations, of which about 170 are zoos in the United States. As of June 6, 2003, about 79 zoos in the United States held 758 prairie dogs according to a survey of data at the website for the International Species Information