## Despite Vaccine, U.S. May See More of the Mumps

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WASHINGTON — The mumps outbreak that occurred in Iowa earlier this year is not necessarily the end of the illness in the United States, Dr. Anne Schuchat said at a press briefing sponsored by the National Foundation for Infectious Diseases.

The Iowa outbreak was the biggest in 20 years, "but that doesn't mean it's the last time we'll be seeing mumps," said Dr. Schuchat, who is director of the National Immunization Program at the Centers for Disease Control and Prevention, Atlanta.

The mumps vaccine was first licensed in 1967 and has been very successful for the most part, said Dr. Schuchat. But that changed in March 2006, when the outbreak began; Iowa had more than 200 cases, "which was almost as many cases as would [normally] have been recorded throughout the entire United States."

By June 20th, Iowa had 1,921 reported cases; by early July, a total of 4,600 cases had been reported nationwide, she added. Much of the outbreak occurred in eight

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states: Iowa, Kansas, Nebraska, South Dakota, consin, Illinois, Missouri, and Pennsylvania.

The clinical illness involved in the outbreak was primarily mild: 80% of the cases featured parotitis, and there were a few cases of meningitis, 59

cases of orchitis, and more than 40 hospitalizations. No deaths were confirmed with the outbreak.

While there are no simple answers to what caused the outbreak, investigators think it may have begun with an unrecognized importation, possibly from the United Kingdom, which had a large mumps outbreak in 2004-2005 involving about 70,000 cases. "The strain that is circulating in our mumps outbreak is identical to the strain from [the U.K.], but that strain is also common in a number of other places where mumps vaccination is not as strong as we have here in the United States," Dr. Schuchat said.

The Iowa outbreak started with a group of college students, and may have been helped to spread by the college student lifestyle, said Dr. Schuchat. "I don't like to think about what happens in colleges, but we know the way people live in college and the way they socialize can lead to high transmission of infections.'

In addition, "we also know college students in America have a lower two-dose vaccine coverage than do [students in] high schools or elementary schools," she said. "That's just a fact of life because we changed our recommendations for the two-dose schedule in 1989, and had pretty good follow-up in terms of school entry, but college students were older and didn't necessarily get that second dose before they went off to college.

Delayed recognition of the outbreak also may have given it a chance to take off and spread to a lot of colleges and states, Dr. Schuchat continued. "Why did we have delayed recognition? [This occurred] partly because physicians and parents and kids aren't that familiar with mumps any more, and partly because some of the presentations were atypical. They weren't that jaw swelling that people know; there

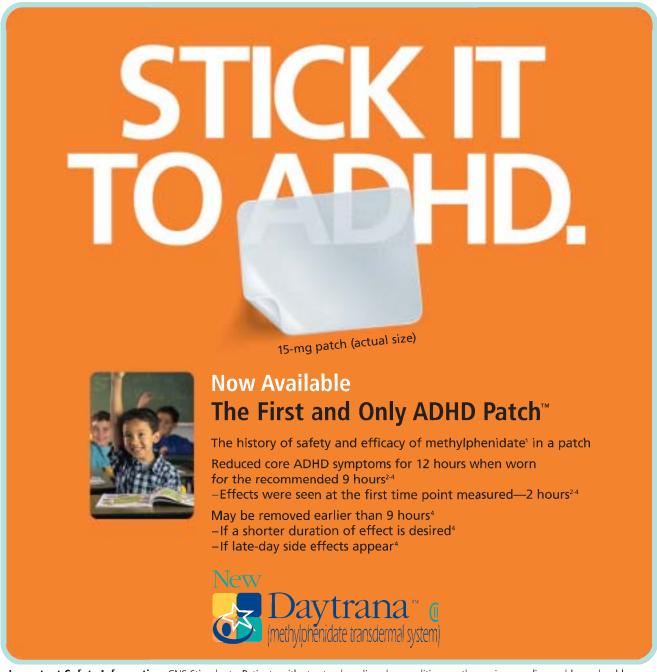
were other respiratory presentations."

Another possible factor in the spread of the outbreak is the overall effectiveness of the vaccine itself. "The vaccine is good, but not great," she said. "When you get two doses of mumps vaccine, we think 90% of people are protected, but it's not 100%. So 10% of people, even those who have good immune systems and get the most vaccine, will still be vulnerable to mumps if they get exposed to the virus."

Dr. Schuchat stressed that the outbreak

could have been much worse. "We have a very high measles/mumps/rubella vaccine coverage level, and the vaccine effectiveness of the two-dose schedule probably prevented thousands and thousands of cases.'

Investigators also think the disease was milder than it might otherwise have been, because it was occurring in people who had one or two doses and may have not gotten the more severe forms of mumps even though they were adults and in an age group where it might occur," she said.



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