

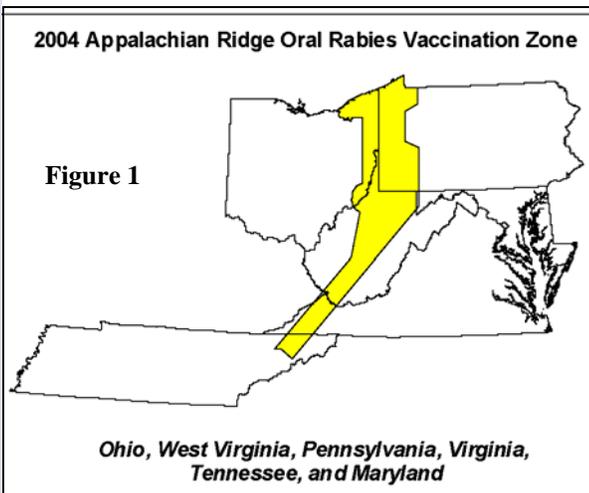


# Ohio Raccoon-rabies and Oral Rabies Vaccination Program—by Natalie Fanell, Epidemiologist, Zoonotic Disease Program

Rabies virus causes acute encephalitis in all warm-blooded hosts, including humans, and the outcome is almost always fatal. Since the mid-1970s, a strain of rabies associated with raccoons has spread rapidly through the eastern United States and first threatened northeastern Ohio in 1997. This strain is of particular concern because it affects many other wild animals and domestic animals, especially cats. In 2003, Virginia reported the first human death due to raccoon-strain rabies (RSR). In newly infected areas,



raccoon rabies results in a ten-fold increase in human rabies exposures and treatments. For these reasons, Ohio does not want this strain of rabies to become established in the state. To control the disease, the Ohio Department of Health (ODH) has been conducting a program to distribute an oral rabies vaccine (ORV) to immunize wild raccoons along the Pennsylvania and West Virginia borders



(Figure 1).

This vaccine is delivered by airplanes and helicopters in rural areas and by ground teams in vehicles in urban areas at an average rate of one bait per 3.3 acres. Treatments have occurred once or twice per year, since 1997, and have created a 25-mile-wide immune barrier from Lake Erie to Monroe County. Animal cases decreased from 62 in 1997 to 0 in 2000, with only one or two cases identified annually through 2003. When ORV efforts expanded to include other states, the United States Department of Agriculture, Animal and Plant Health Inspection

<b>Inside this issue:</b>	
<b>Infertility Prevention Project</b>	<b>4</b>
<b>Meningococcal Disease in Ohio</b>	<b>5</b>
<b>Pandemic Influenza – A Diminished Threat?</b>	<b>10</b>
<b>Quarterly Summary of Selected Reportable Infectious Diseases, Ohio</b>	<b>12</b>

# Ohio Raccoon-rabies and Oral Rabies Vaccination Program—continued

Service, Wildlife Services (USDA APHIS WS) stepped in to coordinate activities. This multistate operation is called the Appalachian Ridge ORV Program.

## 2006 Spring Baiting Efforts

The purpose of the spring ORV baiting was to reinforce an immune barrier to prevent further spread of RSR into Ohio. The vaccine effort targeted five northeastern Ohio counties (Cuyahoga, Geauga, Lake, Portage and Summit) where 94 animals with RSR have been confirmed since July 2004. Beginning



Figure 3

April 18, 91,980 ground, 13,320 helicopter and 137,932 aerial baits, for a total of 243,232 baits were distributed over 1,152 square miles of Ohio. Fish meal polymer (Figure 2) baits were used in ground and helicopter operations, while coated sachet (Figure 3) baits were distributed by fixed-wing aircraft.

## Aerial Operation

One Twin Otter aircraft from the Ontario Ministry of Natural Resources, Aerial Fire and Flood Management (OMNR) was utilized. Eight staff from ODH and the USDA APHIS WS assisted in the effort. OMNR aircraft distributed 137,932 baits over 713 square miles on April 19 and 20.

## Ground and Helicopter Operations

County health department staff distributed more than 50 percent of the 91,980 ground baits between April 18 and 21. The ground baiting rate was 120 baits per square mile, covering 736 square miles.

A single Ohio Department of Transportation helicopter baited both Cuyahoga County Cleveland Metroparks and Summit County Cuyahoga Valley National Park (CVNP). A total of 13,320 fish meal polymer baits were distributed over the Cleveland Metroparks North and South Chagrin Reservations (5,400 baits), and CVNP (7,920 baits). A nonprofit group, the Wolf Aviation Fund, provided a grant that funded aviation costs and the purchase of baits for helicopter distribution.

## 2006 Fall Baiting Efforts

The purpose of the routine fall ORV baiting is to maintain the 25-mile-wide immune barrier along Ohio's borders with Pennsylvania and West Virginia and to reinforce the spring ORV operation where the August 2004 RSR outbreak occurred. Fourteen counties (Ashtabula, Belmont, Carroll, Columbiana, Cuyahoga, Geauga, Harrison, Jefferson, Lake, Mahoning, Monroe, Portage, Summit and Trumbull) were baited with 166,680 ground, 57,240 helicopter and 642,894 aerial baits, for a total of 866,814 baits distributed over 4,696.9 square miles (Figure 4).

## Aerial Operation

For Ohio's portion of the National Appalachian Ridge ORV program, 642,894 baits were dropped by air over 17 days, Sept. 5 to 21. OMNR pilots and 35 staff members from ODH, USDA APHIS WS (staff from Ohio, West Virginia and Pennsylvania) and the Ohio National Guard flew more than 4,696 square miles distributing baits.



Figure 2

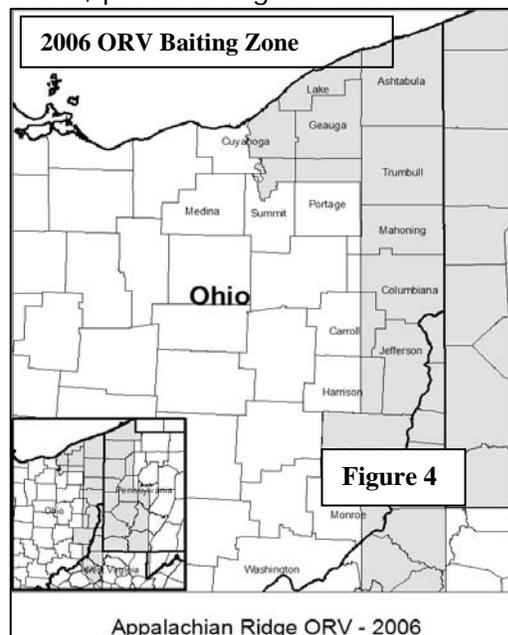


Figure 4

Appalachian Ridge ORV - 2006

# Ohio Raccoon-rabies and Oral Rabies Vaccination Program— continued

## Rabies Facts

- Rabies is almost always fatal in people unless treatment is initiated soon after exposure.
- Wild animals remain the major source of rabies in Ohio.
- Prior to 1997, skunks and bats were the major source of rabies infection to pets, live-stock and people. Only about 11 animals per year were confirmed rabid.
- In 2006, there were 59 confirmed rabid animals; 48 bats, 10 raccoons and one opossum.
- A person bitten by any animal should report the bite to their local health department within 24 hours and seek immediate medical advice.
- Vaccinate your pets.
- If a pet comes in contact with a wild carnivorous animal or bat, contact your veterinarian immediately.
- Ohio's Oral Rabies Vaccination Program continues to protect the state against the spread of raccoon rabies.



### Ohio Department of Health Zoonotic Disease Program

P.O. Box 1430

Reynoldsburg, OH 43068

1-888-RABIES-1

[zoonoses@odh.ohio.gov](mailto:zoonoses@odh.ohio.gov)

## *Ground and Helicopter Operations*

Ground baiting by county health department staff was completed within 17 days. A total of 223,920 baits were distributed by helicopter and ground teams: 57,240 by helicopter; and 166,680 by ground teams. Cleveland Metroparks personnel also distributed 3,960 ground baits within seven Metroparks reservations (Bedford, Brecksville, Ohio & Erie Canal, Euclid Creek, Garfield Park, North Chagrin and South Chagrin).

## **2007**

Plans are being made for the 2007 spring ORV. The vaccine effort will target the same five northeastern Ohio counties (Cuyahoga, Geauga, Lake, Portage and Summit), as in spring 2006. Baiting is set to begin in the month of April, weather permitting. Ohio's ORV program for 2007 will mirror the baiting efforts made in 2006.

# **Infertility Prevention Project** by James D. Greenshields, Infertility Prevention Project Coordinator

## **What is the Infertility Prevention Project?**

In 1993, the United States Congress appropriated funds to the Centers for Disease Control and Prevention (CDC) to begin a national sexually transmitted disease (STD)-related Infertility Prevention Program (IPP). The program was designed to improve screening, surveillance and treatment of chlamydia in the United States. By 1996, the CDC had contracted with all states for demonstration-level funding to provide tests/treatment for chlamydia in family planning and STD clinics.

When infected, approximately 75 percent of women and 50 percent of men have no symptoms of the disease and, therefore, may not seek care until severe health problems occur. When diagnosed, chlamydia can be easily treated and cured. Untreated chlamydia can cause severe and costly reproductive and health problems including pelvic inflammatory disease, which is linked to infertility and potentially fatal tubal pregnancy. Chlamydia is one of the major causes of tubal infertility in the United States.

## **Who is involved in the Region V Infertility Prevention Project?**

The six states, Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin have been working collaboratively since 1995 through the Region V Infertility Prevention Project (RVIPP) Advisory Committee. Thirty members from the six states worked jointly to develop screening

criteria, collect data, establish volume purchasing, exchange information and research and set regional objectives. The members represent the fields of family planning, STD, maternal and child health, public health laboratories and epidemiology. Each state has an infertility prevention alliance that relays recommendations to the regional committee and, in turn, receives guidance from the RVIPP. Regional activities are coordinated through Health Care Education and Training, Inc., a nonprofit organization that provides training, technical assistance and infrastructure development on issues of women's health within the region.

## **What is the ODH Infertility Prevention Project?**

The Ohio IPP currently offers free screening for chlamydia and gonorrhea infections at 89 clinical sites across Ohio. The sites fall into three categories. The first category covers public health STD clinics, of which the project has 32 clinical sites participating. The second category covers family planning agencies, to include free-standing family planning and Planned Parenthood clinics, of which the project has 49 clinical sites participating. The third category covers juvenile detention centers, of which the project has eight clinical sites.

The Ohio IPP offers testing at these sites for women and men on a no-fee basis. To qualify, patients must meet a screening criterion that has been developed with behavioral data from all the states in the Health and

Human Service Region V. The project covers the cost of overnight shipping of specimens to the Ohio Department of Health Laboratory (ODHL) that performs the testing. ODH also supplies participating project sites with no-charge antibiotics for the treatment of positive patients and their sexual partners. The IPP is limited to which agencies may receive the free testing by the CDC project grant. The allowable sites are STD clinics, family planning agencies and correctional facilities.

## **What are the current testing numbers for the project?**

In 2005, the Ohio project tested 67,363 specimens for chlamydia and gonorrhea. Among those tested, 5,663 (8.4 percent) clients were positive for chlamydia and 2,710 (4.0 percent) were positive for gonorrhea.

In 2006, the Ohio project tested 78,733 specimens for chlamydia and recorded 6,669 (8.5 percent) positive results. The project recorded 3,041 (4.4 percent) positive results for gonorrhea from 69,850 specimens submitted.

The highest prevalence for both diseases was seen at juvenile detention centers. In 2005, 14.4 percent of juvenile inmates tested were positive for chlamydia and 5.3 percent were positive for gonorrhea. The next highest prevalence was noted within STD clinics, with 12.4 percent testing positive for chlamydia and 9.3 percent testing positive for

## Infertility Prevention Project—continued

gonorrhea. A somewhat lower prevalence of disease was detected among clients screened at family planning sites in 2005, with 6.5 percent testing positive for chlamydia and 1.6 percent testing positive for gonorrhea among those tested. Data for 2006 positivity rates by site type are still being tabulated as of this writing.

### What is the test used for the project?

The Ohio project tests all specimens through ODHL. The laboratory uses the Becton Dickinson, Probe Tec, single strand displacement test. This is a nucleic Acid Amplified Test (NAAT).

The project tests genital swabs from the STD and family planning sites and urine specimens from juvenile detention centers.

### Where is the project going?

The Ohio project would like to refine screening and testing to center on the highest-risk population. In 2006, the project set in place guidelines that stopped testing for gonorrhea at sites that had less than a 1 percent positivity yield. The decrease in these tests allowed the project to expand testing in several juvenile detention centers. The CDC has stated that

the juvenile detention population is an area of high risk that does not receive adequate screening.

The CDC grant has had to endure minor rescissions over the last two years; however, the Ohio IPP estimates the ability to perform 82,000 tests in 2007 at the current funding level. The project coordinator, in conjunction with health care providers who are on the IPP state alliance, will explore strategies to increase testing in the highest-risk groups with the funding received from CDC.

## Meningococcal Disease in Ohio by Kimberly D. Machesky, MPH, General Infectious Disease Surveillance Unit (GIDS)

### What is meningococcal disease?

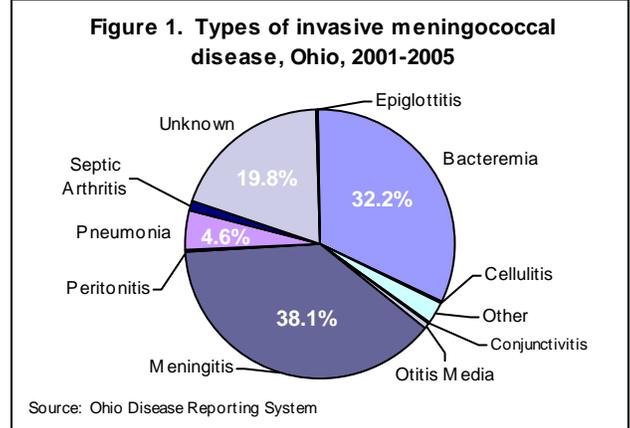
Invasive meningococcal infection in humans occurs when a bacterium, *Neisseria meningitidis*, invades a normally sterile site such as the blood or cerebrospinal fluid. The ensuing disease is described by one or more syndromes: bacteremia/sepsis, meningitis, meningococemia or less commonly, pneumonia, septic arthritis, conjunctivitis or pericarditis. The most severe type of infection, meningococemia, often involves an abrupt onset of fever, chills, prostration, petechial rash, hypotension, coagulation and/or multi-organ failure.<sup>1,2</sup> An estimated 10-20 percent of people who survive meningococcal disease develop

long-term problems such as mental retardation, hearing loss or loss of limb use.<sup>2</sup>

The most common known types of meningococcal disease reported in Ohio from 2001-2005 included meningitis, bacteremia and pneumonia, accounting for 75 percent of disease reports (see Figure 1).

Epiglottitis, cellulitis, conjunctivitis, otitis media, peritonitis, septic arthritis and other types of infection were reported for about 5 percent of cases. From 2001-2005, nearly 20 percent of meningococcal disease reported to the Ohio Department of Health (ODH) had the type of infection as unknown.

In Ohio, the number of cases of meningococcal disease decreased in the past five years (see Figure 2, following page). The total number of reported cases declined from 91 in 2001 to 45 in 2005.



# Meningococcal Disease in Ohio—continued

## Causative Agent

Meningococcal disease was first clinically described in 1805 during an outbreak near Geneva, Switzerland, but the organism that causes the disease, *Neisseria meningitidis*, was not identified until 1887.<sup>3</sup> *N. meningitidis* is a Gram-negative bacterium that is spherical in shape and is usually found grouped in pairs. *N. meningitidis* can be categorized into one of 13 serogroups, labeled as Groups A-D, H, I, K, L, X, Y, Z, W-135 and 29E. The serogroups are determined by different polysaccharide antigens that compose the cell wall of the organism. *N. meningitidis* can be isolated from any place in the body and in any orifice.<sup>3</sup>

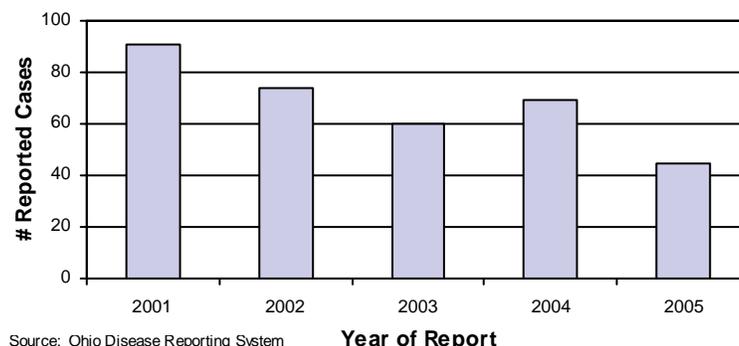
Worldwide, serogroups A, B and C account for more than 90 percent of meningococcal disease.<sup>2</sup> However, in the United States, Groups B, C and Y are the most common serogroups, each contributing to about 30 percent of all reported cases.<sup>1</sup>

Ohio appears to be consistent with these meningococcal serogroup distribution trends (see Figure 3). Groups B, C and Y were the most common, known serogroups from 2001-2005, accounting for more than 70 percent of all isolates.

Each of the two vaccines available to prevent meningococcal disease offers protection against serogroups A, C, Y and W-135. Menomune® is the older tetravalent polysaccharide vaccine available since 1981, while Menactra™ is the newer tetravalent conjugate vaccine licensed in 2005.<sup>4,5</sup> The Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices recommends the meningococcal vaccine for adolescents aged 11-12 years old, teenagers entering high school, matriculating college freshmen who will be living in dormitories and anyone else considered to be at high risk for meningococcal disease.<sup>4,6</sup>

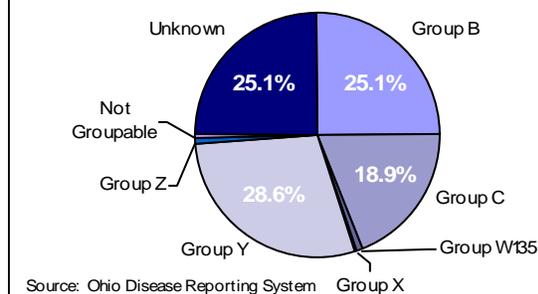
From 2001-2005, the proportion of reported cases of meningococcal disease in Ohio attributable to Group Y, which is available in either vaccine, experienced a drastic decrease in 2005 (see Figure 4).

**Figure 2. Meningococcal disease by year of report, Ohio, 2001-2005**



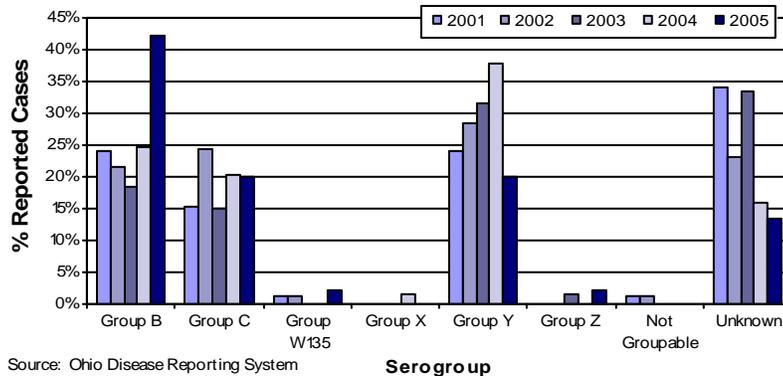
Source: Ohio Disease Reporting System

**Figure 3: Meningococcal disease serogroups, Ohio, 2001-2005**



Source: Ohio Disease Reporting System

**Figure 4. Proportion of meningococcal disease by serogroup and year, Ohio, 2001-2005**



Source: Ohio Disease Reporting System

## Meningococcal Disease in Ohio —continued

From 2001-2004, disease caused by Group Y steadily increased, reaching a peak of 38 percent in 2004. In 2005, this decreased to 20 percent. The proportion of disease due to Group C had an inconsistent trend, with the proportion alternatively increasing and decreasing from 2001-2004. Disease due to Group C changed little from 2004-2005, but the proportion in 2005 was still higher than it was in 2001. The proportion of meningococcal disease attributable to Group B increased quite dramatically from 25 percent in 2004 to 42 percent in 2005. These data may suggest that the increased awareness and use of a meningococcal vaccine has decreased disease caused by serogroups available in the vaccine.

Furthermore, there has been a significant decrease in the proportion of unknown serogroups from 35 percent in 2001 to 13 percent in 2005. This is likely due to the increase in meningococcal isolates being sent to the ODH Lab for testing and serogrouping. Further analyses in future years may better depict the impact the vaccine has had on the proportion of meningococcal disease attributable to certain serogroups.

### Transmission of Disease

People can be asymptomatic carriers of *N. meningitidis*, possessing the organism in their posterior nasopharynx without exhibiting symptoms. Invasive disease occurs when the organism crosses the mucus lining of the nasopharynx into the blood stream and then the cerebrospinal fluid. Once invasive disease occurs, the clinical expression ranges from mild, self-limited

bacteremia to overwhelming sepsis, necrosis and death within a few hours.<sup>3</sup> It is estimated that 5-10 percent of the population are asymptomatic carriers of *N. meningitidis*, and less than 1 percent of those carriers further progress to invasive disease.<sup>2</sup>

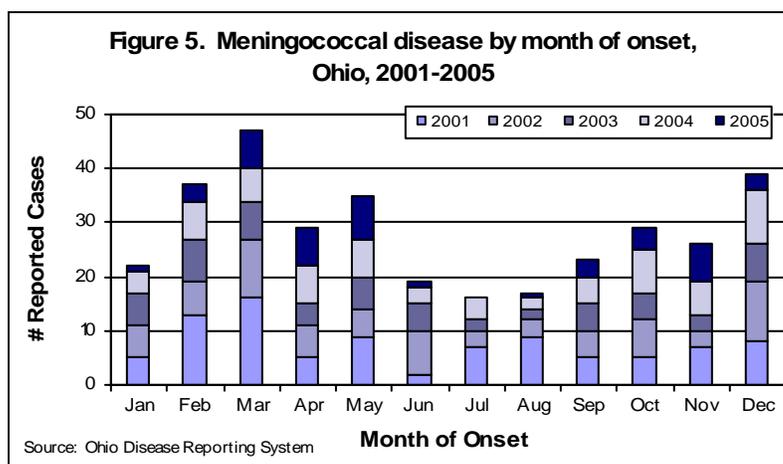
Meningococcal disease is transmitted from person to person through respiratory droplets. Direct transmission can occur from mouth-to-mouth resuscitation, transfusion of infected blood and organ transplantation.<sup>3</sup>

For more information on the signs, symptoms, treatment and prophylaxis of meningococcal disease, please refer to the Ohio Infectious Disease Control Manual available on the ODH Website. <http://www.odh.ohio.gov/pdf/IDCM/meningo.pdf>.

### Seasonality

There is a seasonal trend to the incidence of meningococcal disease. In the United States, the peak incidence occurs in the late winter to early spring, from February to May. The lowest incidence of disease usually occurs from July to October.<sup>2,3</sup>

Meningococcal disease in Ohio exhibited these seasonal patterns from 2001-2005, with the peak incidence occurring in the winter and spring, and the lowest incidence occurring during the summer (see Figure 5).



### Disease Risk

The leading risk factor for meningococcal disease is age. Infants have the greatest risk of disease, with the highest incidence occurring in infants between 3 and 5 months of age. Most cases are seen in children less than 5 years of age.<sup>2,7</sup> The risk decreases after infancy and then increases again in adolescents and young adults.<sup>2</sup>

As seen in Figure 6 (following page), Ohio's trends are consistent with these national trends. The highest rate of meningococcal disease in Ohio from 2001-2005 was 33.7 per 100,000, which occurred in infants less than 1 year of age. The next highest rate

## Meningococcal Disease in Ohio—continued

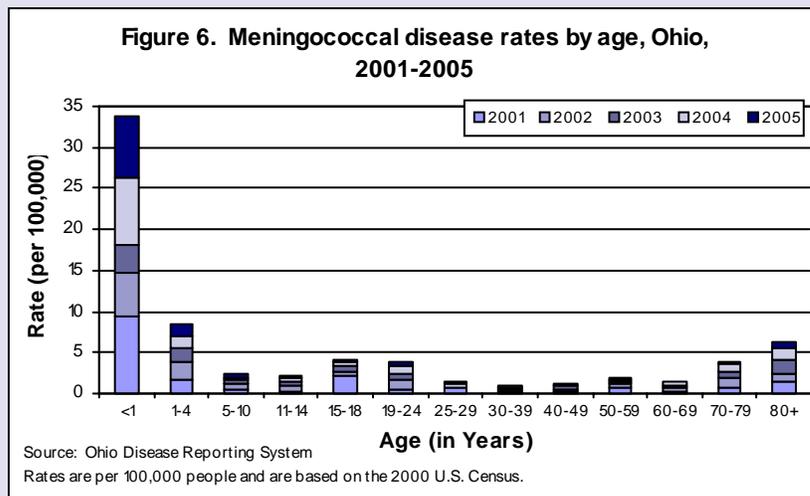
occurred in children aged 1–4 years old and was 8.4 per 100,000. The incidence rate decreased in children 5–14 years of age, but then increased slightly in teenagers aged 15–18 and young adults aged 19–24. The rate declined in adults and then increased again in elderly adults. Other risk factors for meningococcal disease include having an underlying immune deficiency, living in crowded conditions, being in a lower socioeconomic class, exposure to tobacco smoke (active or passive), concurrent respiratory tract infections, new military recruits and university students living in dormitories.<sup>1,2,3,5</sup>

While more cases of meningococcal disease were reported for Caucasians than African Americans in Ohio, African Americans had a higher rate of disease from 2001-2005 (see Table 1). Over all five years, the rate was higher among African-American Ohioans than Caucasian Ohioans. The total rate among African-American Ohioans was 3.2 per 100,000 as compared to 2.3 per 100,000 for Caucasian Ohioans.

No differences were found in meningococcal disease by gender.

### Summary

From 2001–2005, the number of reported cases of meningococcal disease in Ohio has decreased. The majority of disease in the United States and Ohio is attributable to three serogroups: B, C and Y, two of which can be prevented by



**Table 1. Meningococcal disease cases and rates by race, Ohio, 2001-2005**

Race	2001		2002		2003		2004		2005		Total	
	N	Rate	N	Rate								
African American	12	0.9	9	0.7	7	0.5	8	0.6	6	0.5	42	3.2
Asian	0	0	0	0	1	0.8	0	0	0	0	1	0.8
Caucasian	57	0.6	49	0.5	47	0.5	46	0.5	23	0.2	222	2.3
Unknown	22	n/a	16	n/a	5	n/a	15	n/a	16	n/a	74	n/a

Source: Ohio Disease Reporting System

Rates are per 100,000 people and are based on the 2000 U.S. Census.

## Meningococcal Disease in Ohio—continued

---

either of the available meningococcal vaccines. With the increased use of a meningococcal vaccine to prevent disease, the incidence of this devastating disease should continue to decrease, especially for those most at risk: infants, children aged 1–4 years, adolescents, teenagers and young adults.

### References

1. American Academy of Pediatrics. Meningococcal Infections. In: Pickering LK, ed. *Red Book: 2003 Report of the Committee on Infectious Diseases*. 26<sup>th</sup> ed. Elk Grove Village, IL: American Academy of Pediatrics; 2003:430-436.
2. American Public Health Association. Meningococcal Meningitis. In: Heymann DL, ed. *Control of Communicable Diseases Manual*. 18<sup>th</sup> ed. Washington, DC: American Public Health Association; 2004:359-366.
3. Baltimore RS. Meningococcal Infections. In: Evans AS, Brachman PS, ed. *Bacterial Infections in Humans: Epidemiology and Control*. 3<sup>rd</sup> ed. New York, NY: Kluwer Academic/Plenum Publishers; 1998:459-479.
4. Bilukha OO, Rosenstein N. Prevention and Control of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices. *Morbidity & Mortality Weekly Report*. May 27, 2005; 54, RR-7:1-21. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5407a1.htm>. Accessed August 2005.
5. Meningococcal Disease. Centers for Disease Control and Prevention, Division of Bacterial and Mycotic Diseases. October 12, 2005. Available at: [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm). Accessed September 7, 2005.
6. Kaplan SL, Schutze GE, Leake JAD, et al. Multicenter surveillance of invasive meningococcal infections in children. *Pediatrics*. October 2005; 118, no. 4:e979-e984.
7. Meningococcal Disease. In: *Ohio Infectious Disease Control Manual*. Columbus, OH: Ohio Department of Health; April, 2005.

# Pandemic Influenza – A Diminished Threat?

by Steve Meese, MPA, ARM-P, Pandemic Influenza Coordinator and Mary DiOrio, MD, MPH, Medical Epidemiologist

More than one year ago, the threat of a global influenza pandemic, particularly one starting from an avian influenza virus, captured many newspaper headlines. Now that the headlines are no longer dominated by the potential of pandemic avian influenza, what is the perception among the public about the risk of such an event? A recent article published in *The Wall Street Journal* indicated many individuals believe the possibility of an influenza pandemic is overblown because the feared mutation of H5N1 has not materialized.<sup>1</sup>

Although human to human transmission of a novel influenza virus has not yet occurred, this does not mean the possibility of an influenza pandemic is any less now than in the past. This is underscored by the World Health Organization's confirmation of 270 human cases of H5N1 in 10 countries throughout Indonesia, Asia, the Middle East and Europe since 2003, of which 164 (61 percent) have resulted in death. As of January 29, 2007, 123 of these cases (including 86 deaths) occurred in 2006 and early 2007.<sup>2</sup> Given these statistics, the threat of an influenza pandemic has not diminished. So why is this threat not receiving more attention?

## Perception of Risk

Much has been written about "risk tolerance" and "risk acceptance." In sum, people and organizations are willing to accept a certain amount of risk (i.e., the possibility that something good or bad will happen). This acceptance is individually

variable and is influenced by a number of factors, particularly information and personal values. Every person and entity acts upon real or perceived risk by avoiding it entirely or embracing it (all or in part).

Actuaries and statisticians predict a variety of events; for instance, residential fires and auto accidents. Based on data from past experiences, the possibility of these events can be forecast with a degree of certainty. This information influences peoples' and organizations' perceptions of their risk to such hazards and the preparations they should take to protect themselves (e.g., purchasing insurance).

Unlike burning houses and wrecked cars, the odds of pandemic influenza occurring and the resulting socioeconomic costs are far less predictable. This is partly due to the unpredictable nature of influenza viruses. It must be noted a number of pandemic influenza projections and models have been developed and do warrant consideration. However, many of these contain the caveat that they were developed with a high degree of uncertainty. What is known is an influenza pandemic *will occur* – history has shown this. What is not known is *when it will appear and its severity*. The latter information is critical to decision making processes. Communicating the importance of planning for pandemic influenza, while acknowledging that it is not known when a pandemic will occur, is a significant challenge for public health officials.

## Management of Risk

Individuals and groups, including public health professionals and organizations, need to remain cognizant about the importance of preparing for an inevitable influenza pandemic. However, this is not an easy task due to competing priorities and inconsistent knowledge about pandemic influenza (especially the differences between it and seasonal influenza).

Communication and education are the keys to successfully managing these obstacles. Risk communication strategies must be in place before, during and after an event. At all of these stages, the messages being provided need to be based on three key factors.<sup>3</sup>

1. **What your audience already knows, thinks, feels and does.**  
This includes people's questions and concerns, what they want to learn more about, what they may misunderstand and what they correctly understand.
2. **What you want your audience to know, think, feel and do.**  
These are the goals of the risk communication effort, including telling people what preparations need to be made and why, and what preparations responsible organizations have made (i.e., emergency management and public health agencies).
3. **The relationship between the factors 1 and 2.**  
This relationship deter-

## Pandemic Influenza – A Diminished Threat?—continued

mines how the audience will receive and respond to the messages being sent. This will also influence the additional messages that will need to be created and disseminated to produce, or further, the desired response.

Risk communication is a collaborative process; therefore, in each of these factors, a premium must be placed on honesty and accessibility, particularly with respect to preparedness and potential severity. If there is not this emphasis, the effort stands a chance of falling well short of its goals. As noted by risk communication experts Peter Sandman and Jody Lanard, "High probability times high magnitude equals high hazard – but it is outrage (which includes fear), not hazard, that usually determines whether people take a risk

seriously."<sup>4</sup>

Thus, the Ohio Department of Health (ODH) continues to work on developing communication tools about pandemic influenza that will help Ohioans appropriately understand the risk for pandemic influenza and will thus encourage preparedness activities. ODH, through both the Bureau of Infectious Disease Control and the Office of Public Affairs, strives to deliver messages to help individuals both understand pandemic influenza and the need for preparedness.

### References

1. Zamiska, N. (2007, January 16). Risk of bird flu pandemic seen as permanent threat. *The Wall Street Journal*. Retrieved January 16, 2007, from <http://www.wsj.com>

2. World Health Organization. (2007, January 29). *Cumulative number of confirmed human cases of avian influenza A/(H5N1) reported to WHO*. Retrieved January 29, 2007, from [http://www.who.int/csr/disease/avian\\_influenza/country/](http://www.who.int/csr/disease/avian_influenza/country/)
- 3.,4. Sandman, P. M., & Lanard J. (2004). *Pandemic influenza risk communication: The teachable moment*. Retrieved January 30, 2007, from <http://www.psandman.com/col/pandemic.htm#no-2>

# Quarterly Summary of Selected Reportable Infectious Diseases, Ohio

## Fourth Quarter, 2006\*

### October 1, 2006 - December 30, 2006

REPORTABLE CONDITION	QUARTER	YEAR
AMEBIASIS	8	15
BOTULISM, INFANT	0	2
CAMPYLOBACTERIOSIS	297	1134
COCCIDIOIDOMYCOSIS	2	6
CREUTZFELDT-JAKOB DISEASE (CJD)	2	12
CRYPTOSPORIDIOSIS	88	371
CYTOMEGALOVIRUS (CMV), CONGENITAL	2	13
E COLI O157:H7	35	151
E COLI, SHIGA TOXIN PRODUCING, NOT O157:H7	3	17
E COLI, SHIGA TOXIN PRODUCING, UNKNOWN SEROTYPE	15	28
ENCEPHALITIS, POST OTHER INFECTION	2	8
ENCEPHALITIS, PRIMARY VIRAL	4	31
GIARDIASIS	210	809
HAEMOPHILUS INFLUENZAE, INVASIVE	28	93
HEMOLYTIC UREMIC SYNDROME (HUS)	3	15
HEPATITIS A	9	53
HEPATITIS B, ACUTE	26	129
HEPATITIS B, CHRONIC	66	389
HEPATITIS C, ACUTE	2	7
HEPATITIS C, PAST OR PRESENT	1692	8157
HEPATITIS E	0	1
KAWASAKI DISEASE	10	31
LEGIONELLOSIS	63	231
LISTERIOSIS	10	44
MENINGITIS, ASEPTIC	238	911
MENINGITIS, OTHER BACTERIAL	19	63
MENINGOCOCCAL DISEASE	11	48
MUMPS	11	42
PERTUSSIS	204	596
SALMONELLOSIS	348	1294
SHIGELLOSIS	68	196
STREPTOCOCCAL DISEASE, GROUP A, INVASIVE	39	241
STREPTOCOCCAL DISEASE, GROUP B, IN NEWBORN	17	62
STREPTOCOCCAL TOXIC SHOCK SYNDROME (STSS)	4	19
STREPTOCOCCUS PNEUMONIAE, INVASIVE, DRUG RESISTANT/INTERMEDIATE (ALL AGES)	111	396
STREPTOCOCCUS PNEUMONIAE, INVASIVE, DRUG SUSCEPTIBLE/UNKNOWN (CHILDREN < 5 YEARS)	37	98
TETANUS	0	2
TOXIC SHOCK SYNDROME (TSS)	2	7
TOXOPLASMOSIS, CONGENITAL	0	1
TYPHOID FEVER	3	11
VARICELLA	2222	8907
VIBRIO PARAHAEMOLYTICUS INFECTION	0	3
VIBRIO VULNIFICUS INFECTION	2	2
YERSINIOSIS	16	38
<b>TOTAL</b>	<b>5930</b>	<b>24685</b>

\*2006 data include confirmed, probable and suspected cases reported to the Centers for Disease Control and Prevention (CDC). This report includes both quarter-specific and year-through-quarter cumulative frequencies for each disease. Quarter is determined by the MMWR week the case was sent to the CDC. This report includes only selected Class A reportable diseases. Data were reported to the Ohio Department of Health via the Ohio Disease Reporting System. Some reportable conditions may be under investigation. Therefore, all data in this report are provisional, but current as of January 24, 2007.



**ODH Infectious Diseases Quarterly** is published by the Bureau of Infectious Disease Control of the Ohio Department of Health.

Acting Director of Health: Anne Harnish, MPA

Chief of the Division of Prevention: Deborah Arms, RN, PHD

Chief of the Bureau of Infectious Disease Control: Barbara Bradley, RN, MS

Editors: Amy Bashforth, MPA and Frank Romano, MPH

Designer: Beverly Henderson

For questions or comments or to add a free subscription,

e-mail [amy.bashforth@odh.ohio.gov](mailto:amy.bashforth@odh.ohio.gov)

or call 614-466-0261.

Ohio Department of Health  
Bureau of Infectious Disease Control  
246 North High Street  
Columbus, OH 43215  
<http://www.odh.ohio.gov>