



## Enteric Disease in Ohio: selected topics by Ellen Salehi, Epidemiologist, Outbreak Response and Bioterrorism Investigation Program

Reportable enteric disease accounts for about 4,300 cases in Ohio annually. Enteric pathogens range from viruses (e.g., hepatitis A, norovirus) to bacteria (e.g., *Salmonella*, *Shigella*, *Campylobacter*, *Escherichia coli* [*E. coli*] O157 and *Yersinia*) to parasites (e.g., *Giardia*, *Cryptosporidium*). Diarrheal disease outbreaks can be foodborne, waterborne, person-to-person spread or communitywide. The groups that may be involved in a diarrheal disease outbreak may be as small as a family unit or as large as 1,400 visitors to an island in Lake Erie and everything in between. They may involve restaurants, schools, nursing homes, day care centers, private homes or county fairs.

The two main goals of outbreak investigations are to identify the causative agent, and to identify the mode of transmission. If one or both of these can be identified, control measures can more effectively be implemented.

In the post-9-11 era of bioterrorism preparedness, outbreak investigations are more important than ever. The ability to investigate and control a point-source outbreak is a good indicator of a health department's overall level of preparedness. See the box at the end of this article to check your health department's level of preparedness.

From 1997 to 2006, 322 confirmed foodborne disease outbreaks were reported in Ohio. These outbreaks meet the general definition of a foodborne outbreak: "An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness." (1) These 322 outbreaks also meet the agent-specific criteria for confirmation of outbreaks (2). As shown in Figure 1, for these 322 foodborne outbreaks, the causative agent was distributed as follows: norovirus (61 percent), *Salmonella* (16 percent), *Clostridium perfringens* (6 percent), *E. coli* O157 (3 percent), *Staphylococcus aureus* (3 percent), *Bacillus cereus* (2 percent). The remaining 9 percent are composed of the following: *Campylobacter* (six outbreaks), mixed agent (six), hepatitis A (four), scombroid (four), chemical (two), *Listeria monocytogenes* (two), mushroom poisoning (two), botulism (one), *Cryptosporidium* spp. (one), pesticide (one), *Trichinella* spp. (one).

Norovirus was the cause of 197 of the 322 confirmed foodborne outbreaks from 1997 to 2006. The Ohio Department of Health Laboratories (ODHL) began to offer norovirus evaluation of stools in 1998. Prior to 1998, the investigation of suspected norovirus outbreaks involved an evaluation of the clinical and epidemiologic picture to determine if it was consistent with norovirus. Bacterial agents were ruled out through assay of food and stool. When polymerase chain reaction (PCR) became available, it became possible to confirm norovirus as the causa-

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tive agent. With the ability to confirm it in the laboratory, there was growing interest in investigating suspected norovirus outbreaks in other settings such as schools, hospitals, nursing homes and child care centers. These outbreaks are often found to be point-source in origin; not foodborne. The occurrence of these non-foodborne, point-source outbreaks of confirmed norovirus from 1998 to 2006 are shown in Figure 2.

*Salmonella* outbreaks constitute 16 percent of the foodborne outbreaks of the past 10 years in Ohio. The distribution of serotypes for 2005 is shown in Figure 3. This is a fairly typical distribution for recent years. *Salmonella* typhimurium and *Salmonella* enteritidis are usually the first- or second-most common serotypes. *Salmonella* newport became the third-most common serotype in Ohio in 1999, and has remained in third place since then, with the exception of 2001, when *Salmonella* Heidelberg was third-most common. Antibiotic resistance in *Salmonella* newport as well as in *Salmonella* typhimurium and other serotypes is an issue of growing concern. The total number of *Salmonella* cases fluctuates around 1,300 per year. The median number of cases for the past 10 years is 1,348 (range 1,195 to 1,602). The median number of outbreaks for the past 10 years is 6.5 (range 4-13). This is shown in Figure 4. Data for *Salmonella* outbreaks from the past two years is shown in Table 1:

**Table 1.**

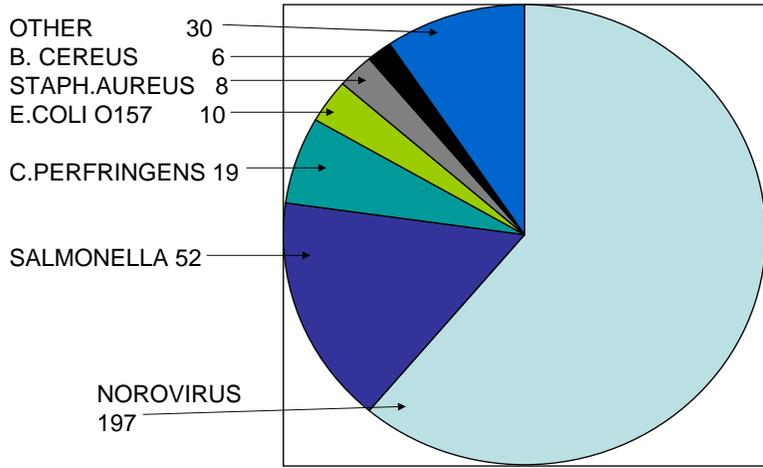
Year	Mode of transmission	Vehicle or setting	Serotype	County	Number of cases
2006	Animal to human	Turtle	paratyphi B	Belmont	2
2006	Foodborne	Liver contaminated with raw egg	enteritidis	Cuyahoga	113
2006	Foodborne	Casserole	thompson	Stark	9
2006	Foodborne	Chicken dish	typhimurium	Franklin	6
2005	Foodborne	Cake batter ice cream	typhimurium	Multistate	2
2005	Animal to human	Chicken, ducks	agona	Multi-county	7
2005	Unknown	Nursing home	baildon	Mahoning	14
2005	Foodborne	Roma tomatoes	braenderup	Multistate	38
2005	Foodborne	Chicken salad	enteritidis	Lucas	12
2005	Foodborne	Ice cream made with raw eggs	enteritidis	Champaign	10
2005	Foodborne	Chicken	enteritidis	Cuyahoga	13
2005	Foodborne	Unknown	javiana	Defiance	21

*E. coli* O157 was the agent of only 3 percent of the confirmed foodborne outbreaks from 1997-2006 in Ohio. However, as recently as 2000 and 2001, nearly 100 cases of *E. coli* O157 were acquired at three county fairs in Ohio. The investigation of these outbreaks led to changes in water handling practices, along with hand washing and other recommendations for county fairs in Ohio. As shown in Figure 5, from 2002 to 2006, the incidence of outbreaks tends to parallel the incidence of cases. Table 2 shows the *E. coli* O157 outbreaks from 2000 to 2006.

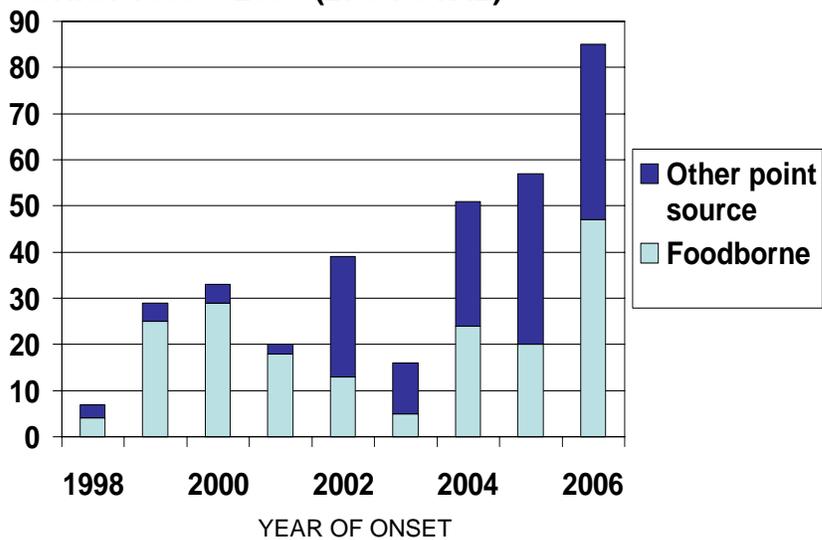
ODHL offers a broad range of tests to assist in the investigation of enteric disease outbreaks.

**Stool:** Cary Blair media is available at no charge for the transport of stool when bacterial pathogens are suspected. These include *Salmonella*, *Shigella*, *E. coli*, *C. perfringens*, *Campylobacter* and *Yersinia*. Ova and parasite (O&P) kits are available when stool needs to be evaluated for *Giardia*, *Cryptosporidium*,

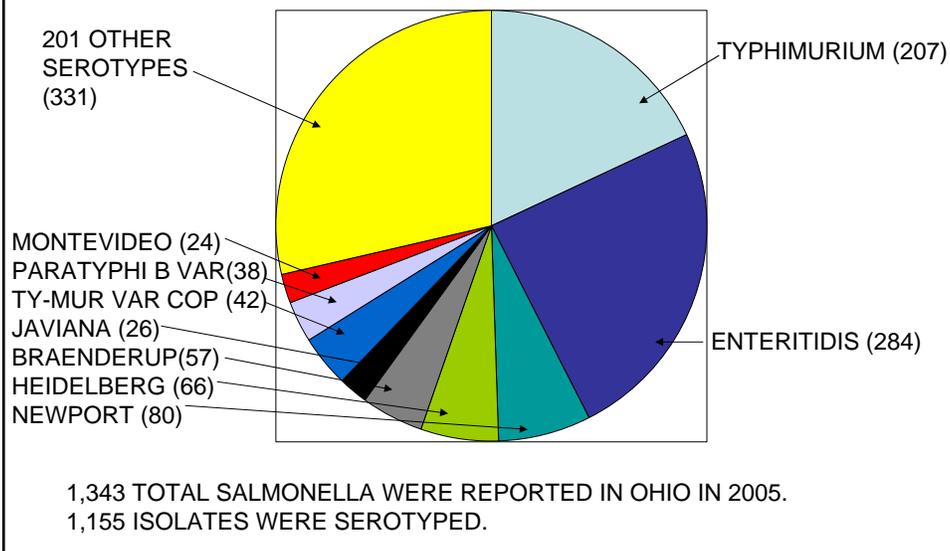
**Figure 1:  
 CONFIRMED FOODBORNE DISEASE OUTBREAKS:  
 OHIO: 1997 – 2006 (322 TOTAL)**



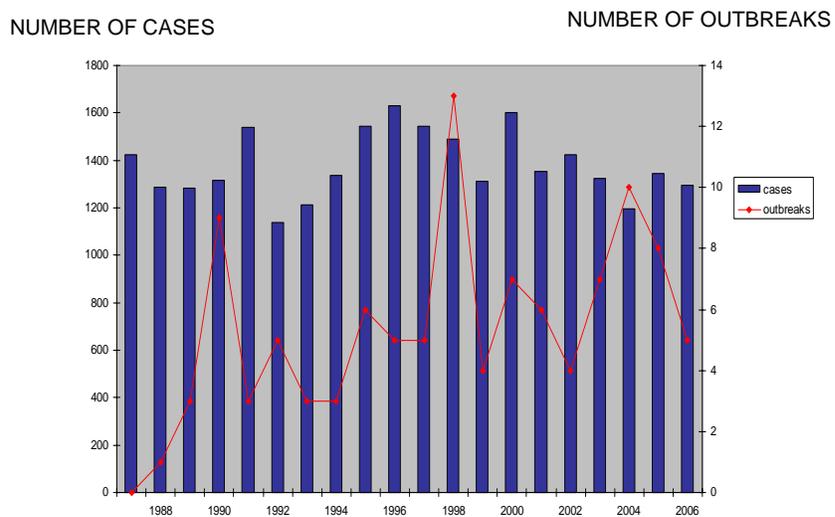
**Figure 2:  
 CONFIRMED NOROVIRUS OUTBREAKS:  
 OHIO: 1998 – 2006 (273 TOTAL)**



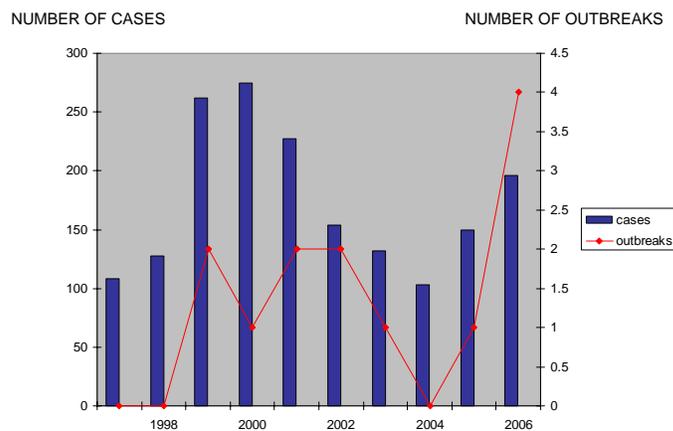
**Figure 3:  
SALMONELLA SEROTYPES: OHIO: 2005**



**Figure 4:  
SALMONELLA: HUMAN CASES AND CONFIRMED  
OUTBREAKS IN OHIO: 1987 - 2006**



**Figure 5:  
E. COLI O157: HUMAN CASES AND CONFIRMED  
OUTBREAKS IN OHIO: 1997 - 2006**



## Enteric Disease in Ohio: selected topics—continued

*Entamoeba*, *Cyclospora* or other parasites. ODH Laboratory can evaluate bulk stool by the Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) test when norovirus is suspected. Local health departments must supply their own bulk stool containers.

**Table 2.**

Year	Mode of transmission	Vehicle or setting	County	Number of cases
2006	Foodborne	Unknown	Butler	5
2006	Foodborne	Raw lamb	Lucas	7
2006	Person-to-person	Private home	Guernsey	4
2006	Foodborne	Fresh spinach	Multistate	26
2005	Foodborne	Fruit salad	Lucas	18
2003	Foodborne	Raw meat loaf	Columbiana	10
2002	Foodborne	Gelatin, donuts	Wayne	13
2002	Foodborne	Sandwiches	Montgomery	5
2001	Contact with animal barn	County fair	Lorain	23
2001	Animal to human	Cattle at county fair	Wyandot	37
2000	Waterborne	County fair	Medina	37

**Food:** Food can be tested for *Staphylococcus* or *Bacillus* toxin. Food can be cultured for *Bacillus*, *Clostridium perfringens*, *Salmonella*, *Shigella*, *E. coli* O157, *Campylobacter* and *Yersinia*. Testing food for viruses or parasites is not presently available, but food can be evaluated for fecal coliforms, as a marker of fecal contamination when viruses (e.g. norovirus) or parasites (e.g. *Giardia*) are suspected.

**Isolates:** Clinical laboratories are asked to send their isolates of the following types of enteric bacteria to the Ohio Department of Health (ODH) for further evaluation: *Salmonella*, *Shigella*, shiga-toxin producing *E. coli* (including *E. coli* O157), *Listeria* and *Yersinia*. Serotyping or serogrouping is performed on all, and most isolates of *Salmonella*, *E. coli* O157 and *Listeria* are evaluated by pulsed-field gel electrophoresis (PFGE). Pulse patterns are uploaded to the national PulseNet database for comparison with pulse patterns from other state health departments, the Centers for Disease Control and Prevention, Food and Drug Administration and United States Department of Agriculture. In this way, multi-state outbreaks are recognized.

To request Cary Blair media or O&P kits, to submit stool or food to ODHL or to report a suspected outbreak, please consult the Outbreak Response and Bioterrorism Investigation Program, Bureau of Infectious Disease Control at (614) 466-0265.

In conclusion, enteric disease outbreaks are a common occurrence in Ohio. Enforcement of food safety and other rules and regulations prevents many outbreaks from occurring. However, when outbreaks do occur, public health agencies can investigate to identify the causative agent, determine the mode of transmission and stop the outbreak.

### Acknowledgments:

The data reported here reflect the work of numerous sanitarians, nurses and epidemiologists in Ohio's local health departments. Also, the invaluable assistance of the microbiologists at ODHL is gratefully acknowledged.

## Enteric Disease in Ohio: selected topics—continued

### How prepared are you?

If a large foodborne, waterborne, person-to-person or mode-of-transmission-unknown outbreak occurred in your jurisdiction tomorrow, would you be ready? Does your health department have staff trained and ready to:

- Institute the appropriate control measures?
- Interview a large number of people on short notice?
- Collect stool or other specimens from affected individuals?
- Collate interview data and summarize them?
- Pack and ship stool or other specimens with appropriate paperwork?
- Interpret lab, field and interview findings?
- Coordinate with neighboring health jurisdictions?
- Summarize the findings of the investigation in a written report?

### References:

1. <http://www.cdc.gov/epo/dphsi/casedef/foodbornecurrent.htm>
2. [http://www.cdc.gov/foodborneoutbreaks/guide\\_fd.htm](http://www.cdc.gov/foodborneoutbreaks/guide_fd.htm)

Other useful Web sites:

FDA's Bad Bug book: <http://vm.cfsan.fda.gov/~mow/intro.html>

CDC's foodborne disease Web site: <http://www.cdc.gov/foodborneoutbreaks/>

CDC's recreational water Web site: <http://www.cdc.gov/healthyswimming/>

# The School Nurse in Ohio by Ann M. Connelly RN, MSN, School Nurse Consultant and Dorothy Bystrom RN, M.Ed., NCSN, Supervisor, School Nursing Program

The American Heart Association notes that 20 percent of the United States population, including children and adults, can be found in schools on any given day (1). In addition to their primary role in education, schools are often gathering places and sources of information in their communities.



In Ohio, enrollment in schools grades kindergarten through 12 now exceeds 2 million students. Preliminary data from the Ohio Department of Health 2006

## NASN Roles of the School Nurse

The school nurse:

- Provides direct health care to students and staff
- Provides leadership for the provision of health services
- Provides screening and referral for health conditions
- Promotes a healthy school environment
- Promotes health
- Serves in a leadership role for health policies and programs
- Serves as a liaison between school personnel, family, community and health care providers

Full text available at: <http://www.nasn.org/Default.aspx?tabid=279>

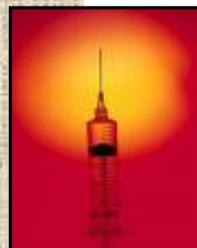
education, personnel and resources to enhance the health and safety of students, in order to eliminate barriers to learning and promote success in school. The National Association of School Nurses (NASN) describes seven roles of the school nurse, including the provision of health services to students and staff, screening and referral for health conditions and serving as a liaison between school personnel, family, community and health care providers (3).

School Nurse Survey indicate that are about 1,566 full-time school nurses in the state serving 84 percent of all school buildings (including public, nonpublic, community and vocational schools), with a ratio of one school nurse to every 1,305 students. What is the role of this health professional in the educational environment?

The American Nurses Association (2007) describes the school nurse as the coordinator of care, information,

The American Academy of Pediatrics identifies the role of the school nurse as crucial in the management and implementation of school health services for all students (4). With such a broad role in the school, *Healthy People 2010* recommends a nurse-to-student ratio of 1:750 in a population of generally healthy students (5). The Ohio Department of Health School Nursing Program supports quality school health services by providing technical assistance, school nurse continuing education, development and dissemination of guidelines and resource documents and facilitation of school emergency preparedness efforts.

In 1902, Lillian Wald, R.N. of New York City set out to improve school attendance by placing a nurse in the school to combat communicable diseases. The project was so successful that a dozen more nurses were hired in the schools a month later, and the specialty practice of school nursing was born. Today, communicable disease management remains one of the foci of school nursing, as well as caring for those with chronic disease and general health promotion and education.



The Ohio Revised Code 3313.671 requires children to present satisfactory written evidence to the school showing the student has received required immunizations. This information must be provided within 14 days of initial entry to the school, whether the student is a new kindergartener or a transfer from another school. The school nurse is the most appropriate person to assess the immunization records of students for completeness. If the immunization record is incomplete, the school nurse will work with the family to identify the means to obtain required immunizations and prevent exclusion from school. Close collaboration with local

## The School Nurse in Ohio—continued

health departments is one way the school nurse assures students are appropriately immunized and in compliance with state regulations.



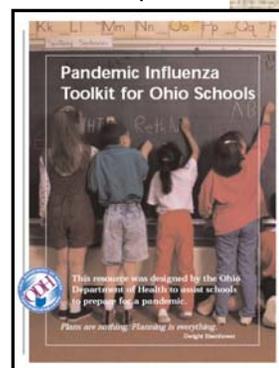
In many schools, the school nurse is present in the health office where ill and injured students and staff come for assistance. The school nurse can monitor communicable diseases in the school during these encounters, as well as offer education to the student,

parent or staff member about ways to prevent disease transmission. In addition, the school nurse is able to make referrals to other medical professionals, including physicians and the emergency room, as appropriate for the presenting illness. With these surveillance activities, the school nurse should also be in contact with the local health department for reportable diseases or if there are concerns about a possible outbreak of an infectious disease.

In some school programs, the school nurse provides classroom health education, presents health information during staff meetings and shares health information with parents at parent teacher organization meetings or other gatherings. In these more structured teaching settings, the school nurse can provide developmentally appropriate information to the audience on such disease prevention topics as hand washing, respiratory etiquette and the importance of proper diet, exercise and sleep. The school nurse can educate parents as to when it is appropriate to send children to school following an illness. The school nurse can train school secretaries, health aids, teachers and administrators regarding when it is appropriate to send a child to the school health office or home. As a collateral benefit, these educational efforts help decrease the incidence of infectious diseases, not only in the school, but in the surrounding community as well. In addition, the school nurse may coordinate vaccination or flu shot clinics for students and/or staff.

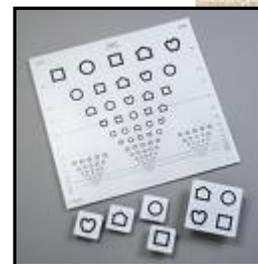


The school nurse is an important resource as schools create emergency preparedness plans. The school nurse can be an advocate for appropriate preparation for the care of special-needs students during an evacuation or shelter-in-place event. School nurse involvement is critical as schools develop pandemic influenza plans. The school nurse can be a resource for staff and student training in CPR, first aid and triage.



While these paragraphs describe some of the work of the school nurse in relation to infectious diseases, the school nurse has many other responsibilities. The school nurse coordinates and conducts vision and hearing screenings mandated by law. The school nurse may conduct other health screenings such as oral health screening, postural screening, body mass index-for-age screening and blood pressure screening. The school nurse coordinates the care of students with chronic illnesses such as diabetes, asthma and epilepsy, and trains school staff on how to recognize and safely care for these students in an emergency.

The school nurse interacts with students who are bullies/bullied, depressed, suicidal, are "cutters," have sexually transmitted infections and are pregnant. The school nurse remains alert for signs of child abuse and neglect, and reports such cases to Children Services. The school nurse may evaluate, educate and counsel students about drugs, alcohol and tobacco. The school nurse may work with the coaches, athletic trainers and school athletes to prevent or contain an outbreak of community associated methicillin-resistant *Staphylococcus aureus* or MRSA. This list of potential school nurse activities is extensive. Each school nurse must assess the needs of her/his school to determine what is needed from a health perspective; therefore, the practice of a school nurse may vary



## The School Nurse in Ohio—continued

depending on the needs of the particular school community.

From the beginning, school nurses have been involved with the management of infectious diseases in the schools. While this continues to be one important function, the role of the nurse in schools has continued to grow as the health needs of society and students have changed. The school nurse is likely to be the only health professional in the school setting, and may be the only person who understands both the health care and educational systems. This ability to bridge health care and educational cultures is a valuable characteristic of the school nurse.



For additional information regarding the School Nursing Program at the Ohio Department of Health, please call 614-466-1930.

### References:

1. American Health Association, Inc. (2004, January). Response to cardiac arrest and selected life-threatening medical emergencies: The medical emergency response plan for schools. *Circulation*, 109, 278-91.
2. American Nurses Association. (March 16, 2007). Position statement: Assuring safe, high quality health care in pre-k through 12 educational settings. [www.nursingworld.org](http://www.nursingworld.org)
3. American Academy of Pediatrics. (2001). The role of the school nurse in providing school health services. *Pediatrics*, 108,(5) 1231-32.
4. National Association of School Nurses. (2007). Issue brief: School health nursing services role in health care; Role of the school nurse. Retrieved August 23, 2007 at <http://www.nasn.org/Default.aspx?tabid=279>
5. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000. Retrieved on August 23, 2007 at <http://www.healthypeople.gov/Document/tableofcontents.htm#Volume2>

## Immunizations Summary for Day Care, Head Start, Pre-School and School Attendance

VACCINES	FALL 2007 IMMUNIZATIONS FOR DAY CARE/HEAD START AND PRE-SCHOOL ATTENDANCE	FALL 2007 IMMUNIZATIONS FOR SCHOOL ATTENDANCE
DTaP/DTP/DT/ Td Diphtheria, Tetanus, Pertussis	4 doses of DTap, DTP or DT or any combination.	Kindergarten 5 doses of DTap, DTP or DT, or any combination, if the fourth dose was administered prior to the 4 <sup>th</sup> birthday.  Grades 1-12 * 3-4 doses of DTap, DTP, DT or Td or any combination.
POLIO	3 doses of OPV or IPV or any combination of OPV or IPV.	Kindergarten 4 doses if a combination of OPV or IPV was administered. 4 doses of all OPV or all IPV is required if the third dose of either vaccine was administered prior to the 4 <sup>th</sup> birthday.  Grades 1-12 3 doses of OPV or IPV or any combination of OPV or IPV.
MMR  Measles, Mumps, Rubella	1 dose of MMR administered on or after the first birthday	K-12 2 doses of MMR. Dose 1 must be administered on or after the first birthday. The second dose must be administered at least 28 days after dose 1.
Hib  Haemophilus Influenzae Type b	3 or 4 doses depending on the vaccine type and the age when the child began the 1 <sup>st</sup> dose and the last dose is after 12 months or 1 dose if given on or after 15 months of age	None
HEP B  Hepatitis B	3 doses of hepatitis B	K-8 3 doses of hepatitis B. The second dose must be administered at least 28 days after the first dose. The third dose must be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the series (third or fourth dose), must not be administered before age 24 weeks.  Grades 9-12 Hepatitis B not required.
Varicella (Chickenpox)	None	K-1 1 dose of varicella vaccine must be administered on or after the first birthday

\*A student who is age 7 or older, and who received Td or Tdap vaccine as the third part of the immunization series, shall not be required to receive further doses of diphtheria, tetanus, or Pertussis vaccine.

**NOTES:**

- The 4-day grace period applies to all age and interval minimums. If MMR and varicella have not been given on the same day they must be separated by 28 days with no grace period.
- The 5th dose of DTap, DTP or DT, and 4th dose of Polio will not be required until kindergarten. At kindergarten, these doses will be required if the 4<sup>th</sup> DTap and 3<sup>rd</sup> Polio were administered prior to the 4<sup>th</sup> birthday.
- The hepatitis B and varicella requirements will be progressive.
- Only full doses of vaccine using proper intervals shall be counted as valid doses.
- For additional information please refer to the Ohio Administrative Code 5101:2-12-37 for Day Care, Head Start, Pre-School and the Ohio Revised Code 3313.67 and 3313.671 for School Attendance. These documents require certain immunizations as well as provides for certain exemptions to immunizations.

# **Immunization School Entry Law in Ohio** by John Joseph, **Immunization Program**

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As the dog days of summer are over and the influenza or flu season is just around the corner, once again we realize the school year is starting. For the Ohio Department of Health (ODH) Immunization Program, preparing for the 2007–2008 school year actually began in February 2007 with updating the “Immunizations Summary for Day Care, Head Start, Pre-School and School Attendance” survey form that was posted to the ODH Web site on March 7. During the past nine years Ohio legislators have made a number of changes to the school entry immunization requirements, as specified in Ohio Revised Code (ORC). In 1999, hepatitis B and a second dose of measles, mumps and rubella (MMR) vaccine were added to the ORC for entry into kindergarten. This requirement is progressive and for the upcoming school year, hepatitis B is required for grades kindergarten through eighth grade and two doses of MMR vaccine are now required for grades kindergarten through 12. Beginning with school year 2006-2007, varicella vaccine was added to the school schedule and will also be progressive.

All children attending a day care, Head Start or preschool are required to have the following vaccines:

- Four doses of DTaP (diphtheria, tetanus, and acellular pertussis), DTP (diphtheria, tetanus, and pertussis) or DT (diphtheria, tetanus) in any combination.
- Three doses of polio vaccine.
- One dose of MMR vaccine.
- Three doses of *Haemophilus influenzae* type b (Hib) vaccine. (If all three doses were given at less than one year of age, a fourth dose is required.)
- Three doses of hepatitis B vaccine.

The requirements for students in grades kindergarten through 12 are as follows:

- Three to four doses of DTaP, DTP, DT or Td in any combination. Only kindergarten students are required to have a fifth dose of DTaP/DTP/DT vaccine if the fourth dose was administered prior to the fourth birthday.
- Three doses of polio vaccine. All kindergarten students (only) are required to have a fourth dose of polio vaccine if the third dose was administered prior to the fourth birthday.
- All students in grades kindergarten through 12 must have evidence of having received two doses of MMR vaccine.
- All students in grades kindergarten through eight are required to have three doses of hepatitis B vaccine. This requirement will continue to raise a grade level each year.
- All students grades kindergarten and first grade are required to have one dose of varicella vaccine. This requirement will continue to raise a grade level each year.

In order to accurately evaluate immunization rates for child care centers, Head Start programs, pre-schools and schools in the State of Ohio, an Immunization Level Assessment Survey is conducted every year by the ODH Immunization Program. Materials are provided prior to the beginning of the school year to all licensed schools and certified child care and Head Start programs. The school summary reports are to be completed and submitted to ODH by Oct. 15, 2007, and the child care centers and Head Start programs are requested to submit the information on or before Nov. 1, 2007. In 2005, ODH created a Web site that allows schools to report online. For the 2006-2007 school year, the Web site was made available to child care and Head Start programs. Currently, ODH is in the process of phasing out the tradi-

## Immunization School Entry Law in Ohio—continued

tional hard copy reports for the child care and Head Start programs. Starting this school year, ODH is requesting that all schools complete the school Immunization Level Assessment online. In 2005, fewer than 200 school summary reports were submitted online. In 2005-2006, 571 school summary reports were received via the Internet, and for the 2006–2007 school year, the number of online submitted school reports rose to 3,243 (48 percent), while 360 child care and Head Start programs (17 percent) and 278 preschools (67 percent) submitted their reports online.

With the success of online reporting, the Immunization Program is excited to streamline the process of immunization survey reporting for schools, day cares, Head Start programs and pre-schools. This new system provides more accurate reporting and reduces the amount of paperwork generated every year. Furthermore, the ODH Immunization Program anticipates an estimated savings of \$22,520 in staff time and data entry contracts this year. This savings should increase as more schools and child care centers begin reporting online. The Immunization Program staff looks forward to sharing their success in collecting all of the Immunization Level Assessments online in the future.

### IDQ Summer 2007

#### Announcements

The National Association of People with AIDS (NAPWA), one of the oldest national AIDS organizations in the United States, hosted the "Staying Alive 2007" conference in Cleveland, Aug. 23-26, 2007. Conference information can be obtained at <http://www.napwa.org>.

The Ohio Department of Health, the Centers for Disease Control and Prevention, and many organizations worldwide are joining in the fight against rabies. The first World Rabies Day was on Sept. 8, 2007. The goal of World Rabies Day is to engage at least 55,000 people across the world to take action on this day - one person participating for every human victim of rabies who died needlessly during the year. This is a day to inform and educate people about the reality of rabies. Remember: The best way to prevent the spread of rabies is to vaccinate your pets. For more information about rabies, visit the following Web sites:

- The Ohio Department of Health: <http://www.odh.ohio.gov/odhPrograms/idc/zoodis/rabies/rab1.aspx>
- The Centers for Disease Control and Prevention: <http://www.cdc.gov/ncidod/dvrd/rabies/>
- The Alliance for Rabies Control: [www.rabiescontrol.org](http://www.rabiescontrol.org)
- World Rabies Day: <http://www.worldrabiesday.org>

Brian Fowler is the new supervisor in the Early Event Surveillance Unit. Brian has been employed by the Ohio Department of Health for the past seven years, most recently as the lead epidemiologist for syndromic surveillance in the Early Event Surveillance Unit. He previously worked as an epidemiologist in the General Infectious Disease and HIV/AIDS Surveillance Units. Fowler began his new duties July 23.

**Quarterly Summary of Selected Reportable Infectious Diseases**  
**Second Quarter, 2007\***  
**April 1, 2007 - June 30, 2007**

REPORTABLE CONDITION	Quarter	Year
AMEBIASIS	3	6
BOTULISM, INFANT	1	1
CAMPYLOBACTERIOSIS	269	450
COCCIDIOIDOMYCOSIS	2	4
CREUTZFELDT-JAKOB DISEASE (CJD)	8	10
CRYPTOSPORIDIOSIS	41	89
CYTOMEGALOVIRUS (CMV), CONGENITAL	2	7
E COLI O157:H7	12	31
E COLI, SHIGA TOXIN PRODUCING, NOT O157:H7	1	4
E COLI, SHIGA TOXIN PRODUCING, UNKNOWN SEROTYPE	10	18
ENCEPHALITIS, POST OTHER INFECTION	2	6
ENCEPHALITIS, PRIMARY VIRAL	5	9
GIARDIASIS	150	323
HAEMOPHILUS INFLUENZAE, INVASIVE	23	59
HEMOLYTIC UREMIC SYNDROME (HUS)	1	4
HEPATITIS A	14	34
HEPATITIS B, ACUTE	40	77
HEPATITIS B, CHRONIC	670	749
HEPATITIS C, ACUTE	3	10
HEPATITIS C, PAST OR PRESENT	3001	5342
HEPATITIS E	1	2
KAWASAKI DISEASE	14	28
LEGIONELLOSIS	34	70
LISTERIOSIS	3	11
MENINGITIS, ASEPTIC	114	212
MENINGITIS, OTHER BACTERIAL	9	26
MENINGOCOCCAL DISEASE	10	22
MUMPS	4	9
PERTUSSIS	172	327
RHEUMATIC FEVER	1	1
SALMONELLOSIS	357	559
SHIGELLOSIS	247	302
STAPHYLOCOCCUS AUREUS, INTERMEDIATE RESISTANCE TO VANCOMYCIN (VISA)	1	3
STREPTOCOCCAL DISEASE, GROUP A, INVASIVE	84	163
STREPTOCOCCAL DISEASE, GROUP B, IN NEWBORN	9	20
STREPTOCOCCAL TOXIC SHOCK SYNDROME (STSS)	7	8
STREPTOCOCCUS PNEUMONIAE, INVASIVE, DRUG RESISTANT/INTERMEDIATE (ALL AGES)	100	273
STREPTOCOCCUS PNEUMONIAE, INVASIVE, DRUG SUSCEPTIBLE/UNKNOWN (CHILDREN < 5 YEARS)	16	37
TOXIC SHOCK SYNDROME (TSS)	2	2
TYPHOID FEVER	2	2
VARICELLA	1197	2848
VIBRIO PARAHAEMOLYTICUS INFECTION	1	2
YERSINIOSIS	13	37
<b>TOTAL</b>	<b>6656</b>	<b>12197</b>

\* 2007 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 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 July 13, 2007.

Source: Ohio Department of Health Infectious Disease Surveillance

**Quarterly Summary of Sexually Transmitted Diseases**  
**Second Quarter, 2007\***  
**January 1, 2007 - June 30, 2007**

<b>SEXUALLY TRANSMITTED DISEASES</b>	<b>QUARTER</b>	<b>YEAR</b>
CHLAMYDIA	11,194	19,062
GONORRHEA	4,748	8,055
SYPHILIS	126	242
<b>TOTAL</b>	<b>16,068</b>	<b>27,359</b>

\* 2007 data include only confirmed cases, except for gonorrhea, which includes confirmed and suspected cases reported to the CDC. This report includes both quarter-specific and year-through-quarter cumulative frequencies for each disease. Quarter is determined by date of diagnosis. Some reportable conditions may be under investigation. Therefore, all data in this report are provisional, but current as of July 25, 2007.

Source: Ohio Department of Health STD Disease Surveillance

**Quarterly Summary of Tuberculosis Cases, Ohio**  
**Second Quarter, 2007\***  
**January 1, 2007 - June 30, 2007**

	<b>QUARTER</b>	<b>YEAR</b>
<b>TUBERCULOSIS (TB)</b>	66	118

\* 2007 data include confirmed cases reported to the CDC. This report includes both quarter-specific and year-through-quarter cumulative frequencies for tuberculosis. Quarter is determined by count date, which is the date the ODH TB Surveillance Program determines the tuberculosis suspect meets the CDC Surveillance Case Definition for TB. All data in this report are provisional, but current as of July 25, 2007.

Source: Ohio Department of Health TB Surveillance

**HIV/AIDS in Ohio as of Dec. 31, 2005<sup>a</sup>**

	<b>HIV</b>	<b>AIDS</b>	<b>HIV/AIDS</b>
Diagnosed <sup>b</sup>	788	218	1006
PLWHA*	7430	7128	14558

<sup>a</sup> Data reported through December 31, 2006.

<sup>b</sup> HIV/AIDS diagnoses include persons with a diagnosis of an HIV infection (not AIDS), a diagnosis of an HIV infection and later AIDS, and concurrent diagnosis of HIV infection and AIDS.

\*Persons Living with HIV/AIDS

Note: Living with HIV/AIDS represents all persons ever diagnosed and reported with HIV or AIDS and have not been reported dead as of Dec. 31, 2005.

Source: Ohio Department of Health, HIV/AIDS Surveillance Program.



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