IAP ON TIME
Volume 14.2 Spring 2010
STATE OF CONNECTICUT IMMUNIZATION PROGRAM

Mumps Outbreak — Connecticut, January 2010–March 2010

Mumps is a contagious viral infection characterized by swelling of one or more salivary glands, usually the parotid glands (parotitis). Other symptoms may include headache and low-grade fever. Up to 20% of persons with mumps have no symptoms of disease, and another 40–50% have only non-specific or respiratory symptoms. There are several potential complications of mumps including inflammation of the testicles, brain and/or tissue covering the brain and spinal cord, ovaries, and deafness. Mumps is spread via respiratory droplets. An infected individual is most contagious from 1–2 days before until approximately 5 days after symptom onset. The incubation period for mumps from exposure to onset of illness ranges from 12–25 days (*1*).

The Northeast region has been experiencing a large outbreak of mumps that began in the summer of 2009 (details available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5905a1.htm?s_cid=mm5905a1_e). As of January 29, 2010, a total of 1,521 cases have been reported from New York and New Jersey. The outbreak has primarily affected the Hasidic (Jewish) community. The median patient age is 15 years; 76% of patients are male. Among cases for whom vaccination status is known, 88% had received at least 1 dose of mumps-containing vaccine, and 75% had received 2 doses. Much of the current outbreak is occurring in congregate settings, where prolonged, close contact among persons might be facilitating transmission (*2*).

During January 2010, the Connecticut Department of Public Health (DPH) identified a mumps outbreak occurring in the state. The mumps outbreak in Connecticut is epidemiologically linked to the outbreak occurring in the Northeast region. The mumps cases occurred in a Connecticut residential school providing secondary and post-secondary education to 72 male students from a traditional observant Jewish community. To raise awareness among practitioners and enhance surveillance for potential mumps cases, a mumps disease advisory was issued by DPH on February 5, and a mumps advisory update on March 16. The advisories are available at http://www.ct.gov/dph/immunizations.

As of March 25, a total of twelve confirmed cases have been reported among students who attend the school, with a corresponding attack rate of 17%. One additional case was reported in a sibling of a day student attendee, for a total of 13 school-associated cases. No further spread associated with the school has been detected. Three of the 13 cases were laboratory confirmed. Case onset occurred during January 7–February 12, 2010. The median age of cases was 15 years; no complications or hospitalizations have been reported. Of the cases for whom vaccination status is known, 8 (67%) were fully vaccinated with 2 doses of mumps-containing vaccine, 3 (25%) were partially vaccinated with one dose of vaccine, and 1 (8%) was unvaccinated.

A vaccine against mumps was first licensed in the United States in 1967. By 2005, high vaccine coverage had reduced disease incidence by 99% (*3*). Currently, individuals in the United States are considered to have age-appropriate vaccinations against mumps if they are aged 1–6 years and have received 1 dose of a mumps-containing vaccine, aged 7–18 years and have received 2 doses of vaccine, or aged 19–53 years and have received 1 dose of vaccine (*3*). In general, individuals born before 1957 are assumed to have natural immunity to mumps from childhood community exposure. Additional vaccination recommendations and/or considerations apply to special circumstance such as international travel, a mumps outbreak, adults attending post-high school institutions, and health-care workers (*3*).

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Inside This Issue

ACIP Highlights

The Advisory Committee on Immunization Practices (ACIP) held its first meeting for 2010 in Atlanta on February 24th and 25th. The meeting produced several new and updated recommendations. These recommendations are provisional until they are reviewed by the Director of CDC and published in the Morbidity and Mortality Weekly Review (MMWR). Provisional and final recommendations may be found at http://www.cdc.gov/vaccines/recs/acip/

ACIP votes to recommend influenza vaccination for all people age 6 months and older

A panel of immunization experts voted on February 24, 2010 to expand the recommendation for annual influenza vaccination to include all people age 6 months and older. The expanded recommendation is to take effect in the 2010-2011 influenza season. The new recommendation seeks to remove barriers to influenza immunization and signals the importance of preventing influenza across the entire population.

For a copy of the provisional influenza recommendations, http://www.cdc.gov/vaccines/recs/provisional/downloads/flu-vac-mar-2010-508.pdf

ACIP votes to recommend replacing Prevnar 7 (7-valent pneumococcal conjugate vaccine) with Prevnar 13 (13-valent pneumococcal conjugate vaccine); FDA approves Prevnar 13

On February 24, ACIP voted to recommend replacing a 7-valent pneumococcal conjugate vaccine (PCV) Prevnar 7 with a 13-valent PCV (Prevnar 13). Both vaccines are manufactured by Wyeth, a wholly owned subsidiary of Pfizer.
Also on February 24, the US Food and Drug administration (FDA) approved Prevnar 13 for active immunization to prevent invasive disease caused by Streptococcus pneumoniae serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F. The vaccine is indicated for use in children age 6 months through 5 years in a four-dose schedule at ages 2, 4, 6, and 12-15 months.

For a copy of the Provisional Recommendations, ACIP Provisional Recommendations for Use of 13-Valent Pneumococcal Conjugate Vaccine (PCV13) Among Infants and Children: http://www.cdc.gov/vaccines/recs/provisional/downloads/pcv13-mar-2010-508.pdf

For a copy or to review all the slide presentations from the ACIP meeting: http://www.cdc.gov/vaccines/recs/acip/slides-feb10.htm

The next ACIP meeting is scheduled for June 23rd and 24th, 2010, in Atlanta.

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Estimates of the effectiveness of mumps vaccine have varied in previous studies, ranging from 73–91% after 1 dose and from 79–95% after 2 doses (*4*). At least one study found 2 doses to be more effective than 1 dose (*5*).

Since January 2010, four laboratory confirmed mumps cases have been reported lacking epidemiologic links to the residential school outbreak. All are thought to have been imported from other states. Mumps surveillance and case follow-up is ongoing in Connecticut.

All suspected mumps cases should be reported to the Connecticut Department of Public Health (DPH) Immunization Program at (860) 509-7929. While mumps activity in the state has not been widespread, the potential for increased transmission exists. DPH is conducting surveillance and pursuing case-based follow-up in order to implement appropriate public health control measures.

For further information regarding mumps, including clinical disease, infection control measures, and updates on vaccinations, visit http://www.cdc.gov/mumps/clinical/index.html. Connecticut healthcare providers with questions regarding testing for and reporting of mumps are encouraged to read the mumps advisories referenced above.

References

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Hib Vaccine Supply Update

CDC, in consultation with the Advisory Committee on Immunization Practices (ACIP), American Academy of Family Practitioners, and American Academy of Pediatrics, is recommending reinstatement of the booster dose of Hib vaccine for children aged 12–15 months who have completed the primary series. **Hib vaccine supply is now sufficient to institute active recall of patients in need of a booster dose of Hib vaccine.** The booster dose was suspended in 2008 due to a Hib vaccine shortage. Children who might have had their Hib booster dose deferred because of the vaccine shortage would likely have been born during the timeframe of September 2006 through July 2008.

For guidance on vaccinating children who were deferred from a Hib vaccine dose due to vaccine shortage, see table ,"Simplified Hib vaccine catch-up schedule", in the next column, also available at: http:// www.ct.gov/dph/immunizations.

Two references for further information on this issue:

1. Licensure of a Haemophilus influenzae Type b (Hib) Vaccine (Hiberix) and Updated Recommendations for Use of Hib Vaccine
2. Hib Vaccine - Q&A for *Providers* about the Hib Vaccination Schedule to guide practitioners and parents.

The Simplified Hib (*Haemophilus Influenzae* Type B) Vaccine Catch-up Schedule

March 2010 Update Recommended schedule for healthy children 7 months – 59 months[1]

Child's current age	Doses already received	When was the last Hib-containing dose received?	Need More Hib Today [2,3]?	Minimum interval to next dose
7-11 Months	0 DOSES	NOT RECEIVED	YES	4 WEEKS
	1 DOSES	1st DOSE RECEIVED 2 MONTHS OR MORE AGO	YES	4 WEEKS
	2 DOSES	2nd DOSE RECEIVED WAS PEDVAX HIB	NOT TODAY	AGE 1 YEAR[4]
		1st and / or 2nd DOSE WAS ACTHIB or PENTACEL	YES[5]	AGE 1 YEAR[4]
	3 DOSES	UP-TO-DATE	NOT TODAY	AGE 1 YEAR[4]
12-14 Months	0 DOSES	NOT RECEIVED	YES	8 WEEKS
	1 DOSE	1st DOSE RECEIVED BEFORE 12 MONTHS OF AGE	YES[5]	8 WEEKS
		1st DOSE RECEIVED AT OR AFTER 12 MONTHS OF AGE	YES[4]	COMPLETE[6]
	2 DOSES	1st DOSE BEFORE 12 MONTHS OF AGE, 2nd DOSE GIVEN AT OR AFTER 12 MONTHS OF AGE	YES	COMPLETE[6]
		1st and 2nd DOSES GIVEN AT OR AFTER 12 MONTHS OF AGE	NO[6]	COMPLETE[6]
		2nd DOSE GIVEN BEFORE 12 MONTHS OF AGE	YES[4]	COMPLETE[6]
	3 DOSES	3rd DOSE RECEIVED AT OR AFTER 12 MONTHS OF AGE	NO[6]	COMPLETE[6]
		3rd DOSE RECEIVED BEFORE 12 MONTHS OF AGE	YES[4]	COMPLETE[6]
15-59 Months	0 DOSES	NOT RECEIVED	YES	COMPLETE[6]
	1 DOSE	1st DOSE WAS AT OR AFTER 15 MONTHS OF AGE	NO[6]	COMPLETE[6]
		1st DOSE WAS BEFORE 15 MONTHS OF AGE	YES[4]	COMPLETE[6]
	2 DOSES	2nd DOSE RECEIVED AT OR AFTER 15 MONTHS OF AGE	NO[6]	COMPLETE[6]
		1st DOSE RECEIVED AT OR AFTER 12 MONTHS OF AGE	NO[6]	COMPLETE[6]
		1st DOSE RECEIVED BEFORE 12 MONTHS OF AGE, AND 2nd DOSE GIVEN BEFORE 15 MONTHS OF AGE	YES[4]	COMPLETE[6]
	3 DOSES	3rd DOSE RECEIVED AT OR AFTER 12 MONTHS OF AGE	NO[6]	COMPLETE[6]
		3rd DOSE RECEIVED BEFORE 12 MONTHS OF AGE	YES	COMPLETE[6]

1 This schedule should only be followed for children who are healthy and do not fall into high-risk categories for Hib disease. HIGH RISK includes children who are American Indian, Alaskan Native or who have sickle cell disease, leukemia, functional or anatomic asplenia, immunosuppression from cancer chemotherapy, HIV infection, and hematopoietic stem cell transplants (HSCT).
2 The Centers For Disease Control and Prevention Catch-Up Schedule is available at: http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2010/10_catchup-schedule-pr.pdf
3 The full minimum spacing rules can be found at http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf.
4 If it has been at least 8 weeks since the previous Hib dose.
5 If it has been at least 4 weeks since the previous Hib dose.
6 Child is complete if the interval between the next to last and final dose is at least 8 weeks.

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WHO recommends viruses for influenza vaccines for use in the 2010-11 northern hemisphere influenza season

The World Health Organization (WHO) recently announced the viruses it recommends for use in the 2010–11 northern hemisphere influenza seasonal vaccine. The announcement is reprinted below.

It is recommended that the following viruses be used for influenza vaccines in the 2010–2011 influenza season (northern hemisphere):

- An A/California/7/2009 (H1N1)-like virus;
- An A/Perth/16/2009 (H3N2)-like virus;**
- A B/Brisbane/60/2008-like virus.

** A/Wisconsin/15/2009 is an A/Perth/16/2009 (H3N2)-like virus and is a 2010 southern hemisphere vaccine virus.

Electronic Medical Records

Electronic Medical Records (EMR), also called Electronic Health Records (EHR), are a computerized replacement of paper medical charts as the primary source of patient information. According to studies conducted by the Centers for Disease Control and Prevention (CDC), EMRs can improve data quality challenges by addressing accuracy, timeliness and completeness.

President Obama's Stimulus Package contains $19 billion for the use of EMRs and health information technology in doctors' offices. Medical care providers who adopt an EMR will be rewarded with incentive payments through either Medicare or Medicaid. Under the Medicaid incentive plan, eligible providers can receive about $60,000 to purchase and use qualified EMRs. For more information on EMRs and to find out how your practice can benefit from this program, please visit: http://www.cms.hhs.gov/Recovery/11_HealthIT.asp

To determine how many immunization providers in CT are already using Electronic Medical Records systems, the Department of Public Health Immunization Program sent out 352 surveys to pediatric and family practitioners in January 2010. There were more than 200 respondents to the survey. Among them, 94 reported that their practice does, in fact, use some form of EMR. Of these, 32 practices reported that they used the Allscripts-Touchworks or Professional products while all other products included on the survey reported very small percentages of usage. Most practitioners used some other form of EMR systems including but not limited to: Intergy, Soapware and SSIMed. Please see the table below for results.

- 352 surveys mailed, 200 responses returned (57%)
- Of the 200 responses received, 92 use an EMR (46%)
- Of the 200 responses received, 108 do not use an EMR (54%)
- Of the 200 responses received, 4 have not decided

Below please find the types of systems that were on the survey, the number of practices using each system and the number of practices capable of capturing the following information: System Compatible to HL-7, CPT Code, ICD-9 Code, Blue Form for Schools, VFC Eligibility, Identifying Children Behind on Immunizations and Identifying Invalid Immunizations.

Types of EMR Systems	# of practices Using EMR Systems	System Compatible to HL-7	**CPT Code**	**ICD-9 Code**	**Blue Form for Schools**	VFC	**Children Behind on Immunizations**	**Invalid Immunizations**
Allscripts-Touchworks	**32**	**18**	**25**	**21**	**2**	**5**	**3**	**10**
Connexin Soft-Office Practicum	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**
eClinical - eClinical Works	**11**	**4**	**10**	**9**	**8**	**6**	**2**	**0**
EMD	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Epic Systems-Epicare	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GE Medical-Centricity (Logician)	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**0**
Misys Healthcare Systems	**5**	**1**	**5**	**4**	**1**	**2**	**2**	**3**
Netsmart-Insight	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NextGen	**2**	**1**	**1**	**1**	**1**	**1**	**0**	**0**
PCC	**2**	**0**	**2**	**1**	**1**	**1**	**0**	**0**
RRMS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SeaSoft	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Other	**39**							

The Human Papillomavirus Vaccine Impact Monitoring Project (HPV-IMPACT)— Connecticut, 2008

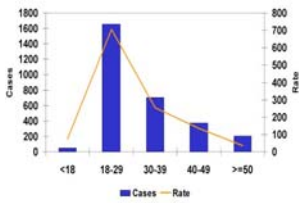
In the United States, invasive cervical cancer is diagnosed in nearly 11,000 women annually, resulting in approximately 4,000 deaths per year (1). Virtually all cervical cancers are caused by the human papillomavirus (HPV). Although there are over 30 different strains of HPV that can infect the human genital tract (2), types 16 and 18 are responsible for 70% of all cervical cancer cases and types 6 and 11 are associated with approximately 90% of all cases of genital warts (3). In June 2006, a Quadrivalent HPV vaccine (types 6, 11, 16, 18) was licensed by the Food and Drug Administration (FDA) and recommended by the Advisory Committee on Immunization Practices (ACIP) for routine use in females aged 11–12 years, with catch-up vaccination recommended for adolescent girls and women aged 13–26 years (3). A second bivalent HPV vaccine was licensed by the FDA in October 2009.

On January 1, 2008, HPV-related cervical intraepithelial neoplasia grades 2 and 3 (CIN 2/3) and adenocarcinoma in-situ (AIS) were added to the physician reportable diseases and laboratory reportable significant findings lists in Connecticut. Since these are pathological diagnoses, initial reports are made by laboratories and follow-up information is collected from physicians. The goal of this surveillance is to monitor the impact of the HPV vaccine on HPV-related precancerous cervical lesions. In 2008, there were a total of 3,702 reports of CIN 2/3 or AIS received from Connecticut pathology laboratories. These reports represent 2,999 individual women (a woman may have multiple procedures resulting in more than one reportable pathology finding in a given year). The median age of CIN 2/3 & AIS cases was 28 years.

The overall statewide incidence of CIN 2/3 & AIS was 212 cases per 100,000 female population (ages 15 and over). New London County had the highest rate with 292 cases per 100,000 female population, while Windham and Tolland counties had the lowest rates with 161 cases and 162 cases per 100,000 female population, respectively (Figure 1).

The 2008 surveillance data show that CIN 2/3 and AIS disproportionately affect young women in Connecticut (Figure 2). The highest incidence was in females aged 18–29 years with a total of 1,658 cases and rate of 706 cases per 100,000 female population. The second highest incidence was in women aged 30–39 years with a total of 702 cases and a rate of 255 cases per 100,000 female population. The lowest rates were found among women older than 50 years (36 per

Figure 2: CIN 2/3 and AIS cases and rates per 100,000 female popu-



Editorial Note: While the HPV vaccine has proven nearly 100% efficacious in clinical trials (4), it is important to continue to track HPV-associated precancerous lesions in order to determine vaccine effectiveness at the population level (5). Connecticut is among a small group of states monitoring cervical cancer precursors statewide The Connecticut Emerging Infections Program, which is a joint project between the Connecticut Department of Public Health (DPH) and the Yale University School of Public Health, is conducting enhanced surveillance for CIN 2/3 & AIS in women aged 18–39 years residing in New Haven County.

Vaccination history (including barriers to vaccination) and cervical cancer screening history is collected through medical chart reviews and telephone interview. A sample of the biopsy specimens from patients will also be collected and sent to the Centers for Disease Control and Prevention to determine which HPV type is present in the lesion.

This surveillance effort is expected to continue over the next 10 years, allowing public health professionals to monitor the impact of the HPV vaccine on population rates of cervical cancer precursors and the prevalence of HPV types responsible for these lesions. Surveillance findings will also help inform clinicians of any possible changes in the rates of cervical cancer screening as a result of the introduction of the HPV vaccine.
Questions regarding HPV-IMPACT can be directed to Dr. Lynn Sosa, Deputy State Epidemiologist, DPH at 860-509-7722, or Dr. Linda Niccolai, Yale University School of Public Health at 203-785-7834.

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