



# Mississippi Morbidity Report

Volume 26, Number 9-11

September – November 2010

## Influenza surveillance and Vaccine Recommendations, 2010-2011 Influenza Season

**Introduction:** The 2010-2011 influenza season has officially begun, and the Advisory Committee on Immunization Practices (ACIP) has released updated guidelines for the prevention and control of influenza with vaccines. Also, the Centers for Disease Control and Prevention (CDC) has encouraged continued surveillance activities for influenza that were initiated in the response to last year's pandemic. What follows is an overview of the Mississippi State Department of Health's (MSDH) influenza surveillance activities, and an excerpt from ACIP's updated vaccine recommendations for the coming season.

### Surveillance Activities

The 2010-2011 influenza reporting season officially began the week of October 3, 2010. MSDH is engaged in a number of influenza surveillance activities each season with data reported to the CDC on a routine basis. The CDC uses surveillance reports from all the states to determine the geographic spread of influenza nationally, monitor the types of influenza causing infection, and monitor the severity of infection through morbidity and mortality data submitted by selected jurisdictions.

**Influenza-like Illness Surveillance:** MSDH monitors seasonal influenza activity statewide through an active surveillance program comprised of sentinel providers. For the 2010-2011 influenza season, 38 sentinel providers in 35 counties are enrolled in this system, representing hospital emergency departments, urgent care and primary care clinics, and college and university student health centers. These providers report weekly numbers of non-trauma patient visits consistent with an influenza-like illness (ILI), defined as fever > 100°F and cough and/or sore throat in the absence of another known cause. MSDH uses this information to estimate the magnitude and geographic distribution of the state's weekly influenza activity. The estimated geographic spread of influenza is described through a 5-tier system ranging from no activity to widespread activity. [Figure 1](#) shows the comparison of statewide ILI sentinel reports for this influenza season to the previous season.

**Influenza Virus Typing:** Each influenza season influenza A and B viruses may co-circulate and cause illness, but there is typically only one predominant type of influenza (usually an influenza A) that causes most of the infections in a given season. Last season the predominant subtype was the influenza A 2009 H1N1 virus, leading to the pandemic. MSDH monitors the types and subtypes of influenza causing illness each season by providing the ILI sentinel providers with kits for collection and submission of respiratory samples to the Mississippi Public Health Laboratory (PHL) for influenza PCR testing. The PHL has the capability to type influenza viruses as A or B, and further subtype as influenza A H1N1 (pandemic and seasonal strains) and influenza A H3N2. Influenza A viruses that can't be subtyped, all influenza B viruses, and representative samples of all types throughout the season are sent to the CDC for further characterization. The CDC tests for antiviral resistance and monitors types and subtypes of influenza viruses to determine matching with vaccine strains. In Mississippi, as of November 16, there have been 13 confirmed positive influenza tests in the PHL. Ten of these are influenza B, and three are influenza A (H3N2). It is too early to make predictions about what may be the predominant type of influenza this season, both nationally and in Mississippi. Updated data can be found at <http://www.healthmys.com/> National data can be found in CDC's FluView publication at <http://www.cdc.gov/flu/weekly/>.

**Morbidity and Mortality Surveillance:** Since the 2007-2008 influenza season, influenza-associated pediatric deaths (children <18 years of age) have been reportable to MSDH as part of routine surveillance.

During the 2009-2010 influenza season, MSDH participated in the Aggregate Hospitalization and Death Reporting (AHDRA) surveillance system, providing weekly reporting of laboratory confirmed hospitalizations and deaths due to influenza. This system greatly enhanced the national response to the influenza pandemic. MSDH will again participate in the AHDRA system, reporting this data to CDC.

In Mississippi influenza-associated deaths in patients < 18 years of age are required to be reported. In addition, MSDH would also appreciate reports of all hospitalized laboratory confirmed cases of influenza and all laboratory confirmed influenza associated deaths. Please report these conditions to us at 1-800-556-0003. Nights, weekends and holidays please call 601-576-7400.

### **Prevention and Control of Influenza with Vaccines**

In the wake of last season's pandemic caused by the 2009 H1N1 virus, the most significant new recommendation by ACIP is the expansion of the age groups who may benefit most from vaccination to include all persons aged  $\geq 6$  month. The following is excerpted from: CDC. Prevention and control of influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010.MMWR2010/59(rr08);1-62, available online at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5908a1.htm>.

#### **Primary Changes and Updates in the Recommendations**

The 2010 recommendations include five principal changes or updates:

- Routine influenza vaccination is recommended for all persons aged  $\geq 6$  months. This represents an expansion of the previous recommendations for annual vaccination of all adults aged 19--49 years and is supported by evidence that annual influenza vaccination is a safe and effective preventive health action with potential benefit in all age groups. By 2009, annual vaccination was already recommended for an estimated 85% of the U.S. population, on the basis of risk factors for influenza-related complications or having close contact with a person at higher risk for influenza-related complications. The only group that was not recommended for routine vaccination was healthy nonpregnant adults aged 18--49 years who did not have an occupational risk for infection and who were not close contacts of persons at higher risk for influenza-related complications. However, some adults who have influenza-related complications have no previously identified risk factors for influenza complications. In addition, some adults who have medical conditions or age-related increases in their risk for influenza-related complications or another indication for vaccination are unaware that they should be vaccinated. Further support for expansion of annual vaccination recommendations to include all adults is based on concerns that 2009 pandemic influenza A (H1N1)-like viruses will continue to circulate during the 2010--11 influenza season and that a substantial proportion of young adults might remain susceptible to infection with this virus. Data from epidemiologic studies conducted during the 2009 pandemic indicate that the risk for influenza complications among adults aged 19--49 years is greater than is seen typically for seasonal influenza.
- As in previous recommendations, all children aged 6 months--8 years who receive a seasonal influenza vaccine for the first time should receive 2 doses. Children who received only 1 dose of a seasonal influenza vaccine in the first influenza season that they received vaccine should receive 2 doses, rather than 1, in the following influenza season. In addition, for the 2010--11 influenza season, children aged 6 months--8 years who did not receive at least 1 dose of an influenza A (H1N1) 2009 monovalent vaccine should receive 2 doses of a 2010--11 seasonal influenza vaccine, regardless of previous influenza vaccination history. Children aged 6 months--8 years for whom the previous 2009--10 seasonal or influenza A (H1N1) 2009 monovalent vaccine history cannot be determined should receive 2 doses of a 2010--11 seasonal influenza vaccine. **See [Figure 2](#) for an algorithm that assists in implementing this complex recommendation.**

- The 2010--11 trivalent vaccines will contain A/California/7/2009 (H1N1)-like, A/Perth/16/2009 (H3N2)-like, and B/Brisbane/60/2008-like antigens. The influenza A (H1N1) vaccine virus is derived from a 2009 pandemic influenza A (H1N1) virus. This applies to both the inactivated trivalent vaccine (TIV) and the live attenuated influenza vaccine (LAIV).
- A newly approved inactivated trivalent vaccine containing 60 mcg of hemagglutinin antigen per influenza vaccine virus strain (Fluzone High-Dose [Sanofi Pasteur]) is an alternative inactivated vaccine for persons aged  $\geq 65$  years. Persons aged  $\geq 65$  years can be administered any of the standard-dose TIV preparations or Fluzone High-Dose. Persons aged  $< 65$  years who receive inactivated influenza vaccine should be administered a standard-dose TIV preparation.
- Previously approved inactivated influenza vaccine, Fluarix (GlaxoSmithKline), was approved for expanded age indications in 2009 and is now approved for use in persons aged  $\geq 3$  years. A new inactivated influenza vaccine, Agriflu (Novartis), has been approved for persons aged  $\geq 18$  years.
- Previously approved LAIV, FluMist (MedImmune), is approved for healthy nonpregnant persons aged 2--49 years. These individuals can receive either LAIV or TIV.
- One brand of influenza vaccine, Afluria (CSL Biotherapies), was approved for use in persons aged  $\geq 6$  months. However, administration of CSL's Southern Hemisphere influenza vaccine has been associated with increased postmarketing reports of fever and febrile seizures in children predominantly below the age of 5 years as compared to previous years. Accordingly:<sup>1</sup>
  - Afluria should not be used in children aged 6 months through 8 years.
  - Other age-appropriate, licensed seasonal influenza vaccine formulations, including other TIVs and LAIV, have not been associated with an increased risk of fever or febrile seizures, are safe, and should be used for prevention of influenza in children aged 6 months through 8 years.
  - If no other age-appropriate, licensed inactivated seasonal influenza vaccine is available for a child aged 5--8 years who has a medical condition that increases the child's risk for influenza complications, Afluria can be used; however, providers should discuss with the parents or caregivers the benefits and risks of influenza vaccination with Afluria before administering this vaccine.
  - Afluria may be used in persons aged  $\geq 9$  years.

[Box 1](#) summarizes the recommendations after incorporating these changes.

### **Vaccination for Health-Care Personnel**

Health-care facilities should offer influenza vaccinations to all Health-Care Personnel (HCP), including night, weekend and temporary staff. Particular emphasis should be placed on providing vaccinations to workers who provide direct care for persons at high risk for influenza complications. Efforts should be made to educate HCP regarding the benefits of vaccination and the potential health consequences of influenza illness for their patients, themselves, and their family members. All HCP should be provided convenient access to influenza vaccine at the work site, free of charge, as part of employee health programs.

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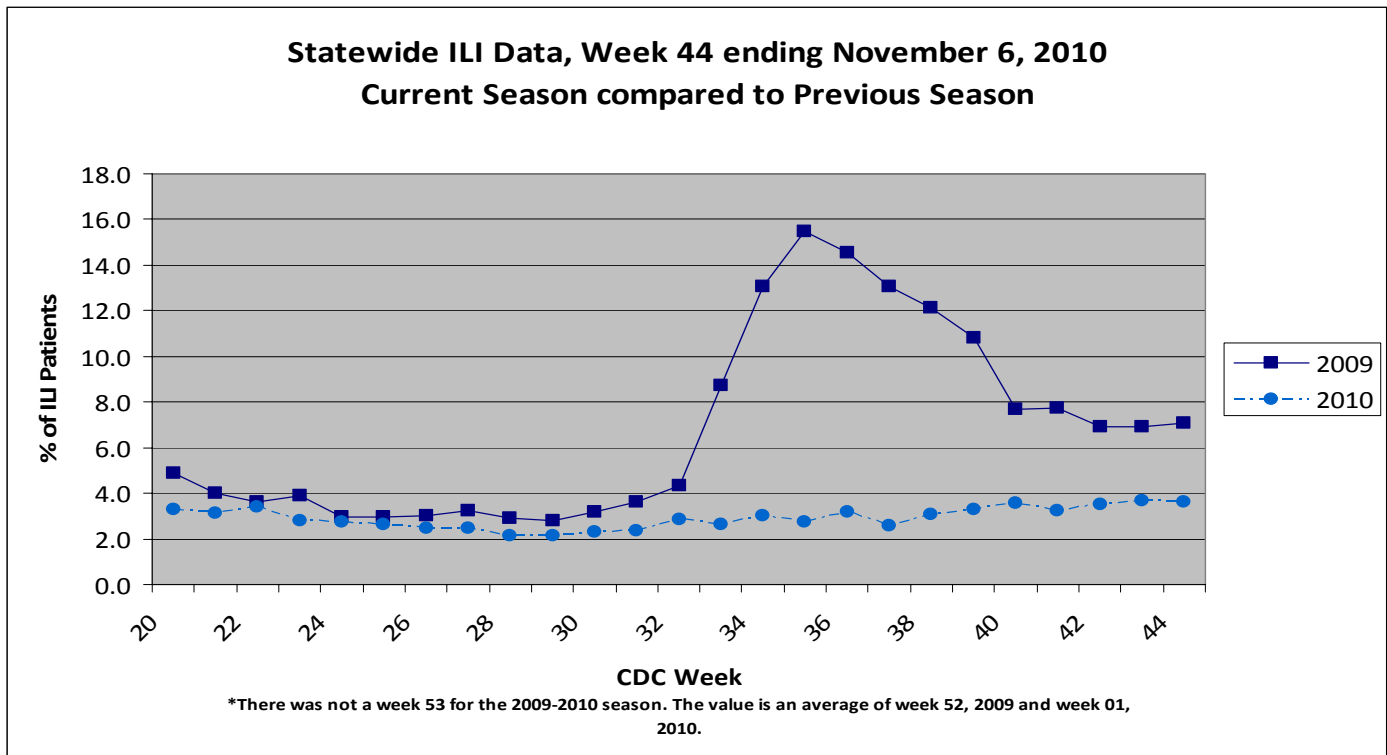
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<sup>1</sup> MMWR 59(31); 989-992; August 13, 2010. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5931a4.htm>

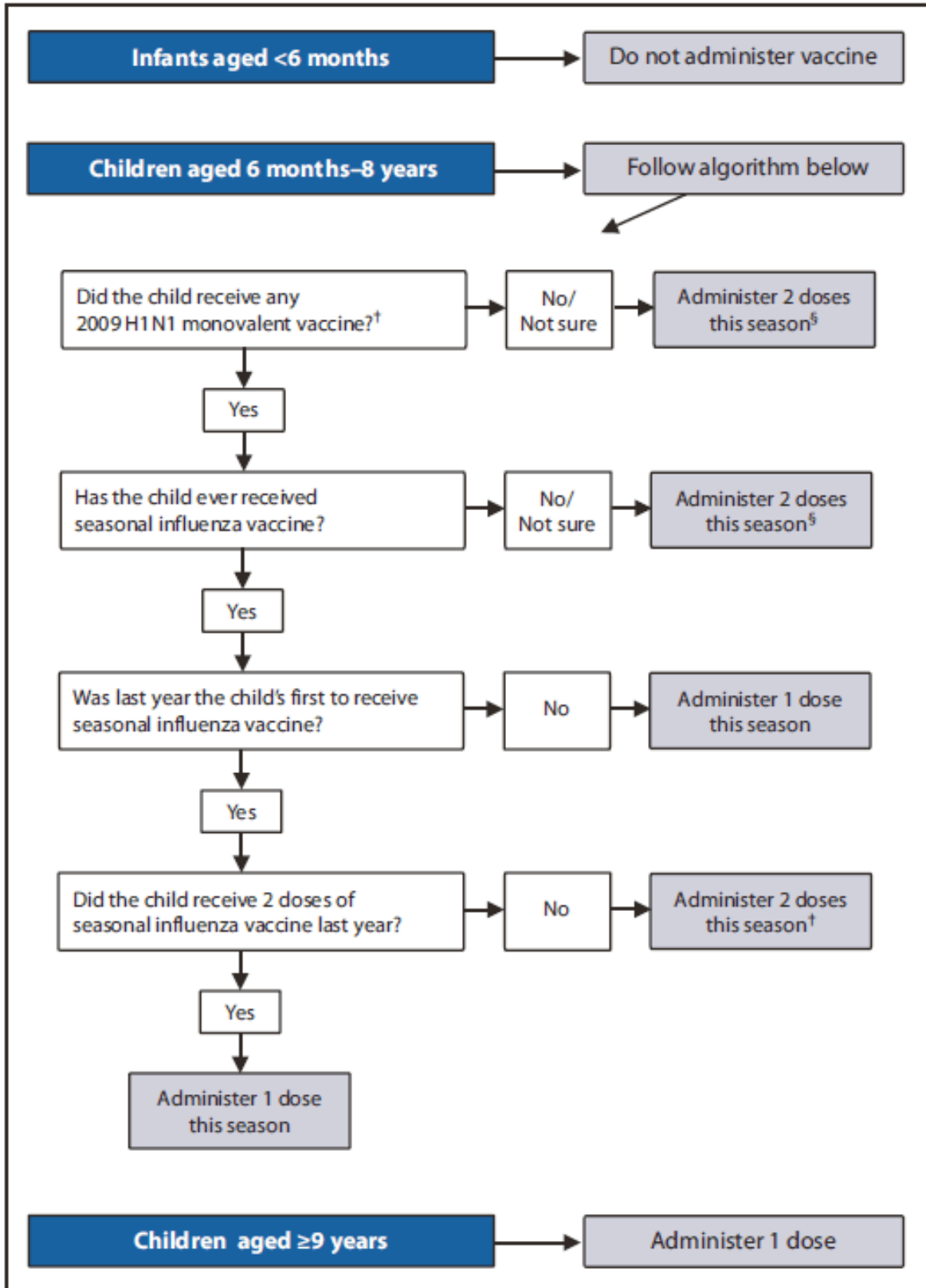
### BOX 1. Summary of influenza vaccination recommendations, 2010

- All persons aged  $\geq 6$  months should be vaccinated annually.
- Protection of persons at higher risk for influenza-related complications should continue to be a focus of vaccination efforts. Persons at higher risk for influenza include persons who:
  - are or will be pregnant during the influenza season;
  - are aged 6 months--4 years (59 months) or are aged  $\geq 50$  years;
  - have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus), are morbidly obese (body-mass index  $\geq 40$ ), or are immunosuppressed;
  - are aged 6 months--18 years and receiving long-term aspirin therapy and who therefore might be at risk for experiencing Reye syndrome after influenza virus infection;
  - are residents of nursing homes and other chronic-care facilities;
  - are health-care personnel;
  - are household contacts and caregivers of children aged  $< 5$  years and adults aged  $\geq 50$  years; and
  - are household contacts and caregivers of persons with medical conditions that put them at higher risk for severe complications from influenza.

Figure 1.



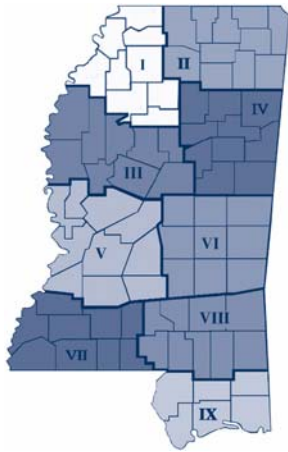
**Figure 2. Number of 2010--2011 seasonal influenza vaccine doses recommended for children**



\* Figure developed by CDC with the American Academy of Pediatrics, Committee on Infectious Diseases.

† Children who had a laboratory-confirmed 2009 pandemic H1N1 virus infection (e.g., reverse transcription--polymerase chain reaction or virus culture specific for 2009 pandemic influenza A (H1N1) virus) are likely to be immune to this virus. At provider discretion, these children can have a "Yes" entered at this box, and proceed down the path to the next box to determine whether two doses are indicated based on seasonal vaccine history. However, if no test result is available and no influenza A (H1N1) 2009 monovalent vaccine was administered, enter "no" here.

§ Interval between 2 doses is  $\geq 4$  weeks.



# Mississippi

## Provisional Reportable Disease Statistics

September 2010

		Public Health District									State Totals*			
		I	II	III	IV	V	VI	VII	VIII	IX	Sept 2010	Sept 2009	YTD 2010	YTD 2009
Sexually Transmitted Diseases	Primary & Secondary Syphilis	1	2	0	0	9	0	0	0	2	14	17	162	164
	Total Early Syphilis	2	2	4	0	16	0	1	8	7	50	44	437	388
	Gonorrhea	49	28	78	31	177	57	24	36	44	524	691	4,603	5,672
	Chlamydia	203	155	198	141	451	177	113	162	179	1,779	2,142	16,356	18,105
	HIV Disease	3	2	7	5	16	6	2	5	2	48	36	385	414
Mycobacterial Diseases	Pulmonary Tuberculosis (TB)	1	1	0	3	2	1	1	0	0	9	6	73	70
	Extrapulmonary TB	0	0	0	0	0	1	0	1	0	2	4	9	17
	Mycobacteria Other Than TB	4	0	1	1	13	5	2	2	2	30	21	305	226
Vaccine Preventable Diseases	Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pertussis	0	0	0	0	0	0	0	0	0	0	6	48	60
	Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0
	Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mumps	0	0	0	0	0	0	0	0	0	0	0	0	1
	Hepatitis B (acute)	0	0	0	0	0	0	1	0	0	1	3	26	22
	Invasive <i>H. influenzae</i> b disease	0	0	0	0	0	0	0	0	0	0	0	0	0
	Invasive Meningococcal disease	0	0	0	0	0	0	0	0	0	0	0	3	4
Enteric Diseases	Hepatitis A (acute)	0	0	0	0	0	0	0	0	0	0	0	2	8
	Salmonellosis	17	22	8	21	55	10	9	11	14	177**	124	868	712
	Shigellosis	0	0	0	0	1	0	0	0	0	1	5	33	38
	Campylobacteriosis	0	3	0	0	0	1	0	0	1	5	6	95	94
	<i>E. coli</i> O157:H7/HUS	0	0	0	0	0	0	0	0	1	1	0	11	6
Zoonotic Diseases	Animal Rabies (bats)	0	0	0	0	0	0	0	0	0	0	0	0	4
	Lyme disease	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rocky Mountain spotted fever	0	0	0	0	0	0	0	0	0	0	0	8	9
	West Nile virus	0	0	1	0	0	0	0	0	0	1	12	6	50

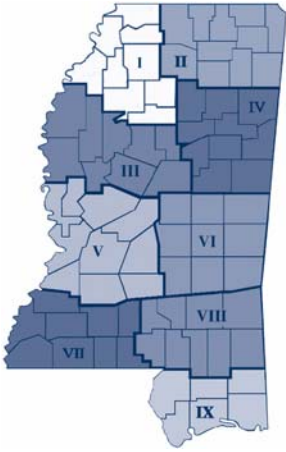
\* Totals include reports from Department of Corrections and those not reported from a specific District.

\*\* Address unknown for 10 cases.

# Mississippi

## Provisional Reportable Disease Statistics

### October 2010



		Public Health District									State Totals*			
		I	II	III	IV	V	VI	VII	VIII	IX	Oct 2010	Oct 2009	YTD 2010	YTD 2009
Sexually Transmitted Diseases	Primary & Secondary Syphilis	0	1	1	2	10	1	1	1	6	23	19	185	183
	Total Early Syphilis	3	1	6	4	28	8	3	6	9	68	50	502	438
	Gonorrhea	47	34	63	35	122	45	25	51	30	452	546	5,053	6,218
	Chlamydia	191	151	188	133	336	136	81	144	113	1,473	1,845	17,825	19,950
	HIV Disease	6	4	4	3	19	3	1	1	5	46	35	431	456
Mycobacterial Diseases	Pulmonary Tuberculosis (TB)	0	0	1	0	2	0	0	2	1	6	14	78	84
	Extrapulmonary TB	0	0	0	0	0	0	0	0	0	0	0	8	17
	Mycobacteria Other Than TB	3	2	2	3	10	5	3	0	5	33	13	338	239
Vaccine Preventable Diseases	Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pertussis	1	1	0	1	0	1	0	1	2	7	3	61	63
	Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0
	Polioyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mumps	0	0	0	0	0	0	0	0	0	0	0	0	1
	Hepatitis B (acute)	0	2	0	0	0	0	0	0	2	4	6	35	28
	Invasive <i>H. influenzae</i> b disease	0	0	0	0	0	0	0	0	0	0	0	0	0
	Invasive Meningococcal disease	1	0	0	1	0	0	0	0	0	2	0	5	4
Enteric Diseases	Hepatitis A (acute)	0	0	0	0	0	0	0	0	0	0	0	2	8
	Salmonellosis	11	27	8	26	45	22	10	4	13	167**	98	1087	810
	Shigellosis	1	0	1	0	0	0	0	0	1	3	5	43	43
	Campylobacteriosis	0	1	0	0	3	1	0	0	1	7**	3	112	97
	<i>E. coli</i> O157:H7/HUS	0	0	1	0	0	0	0	0	0	1	0	12	6
Zoonotic Diseases	Animal Rabies (bats)	0	0	0	0	0	0	0	0	0	0	0	0	4
	Lyme disease	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rocky Mountain spotted fever	0	0	0	0	1	0	0	0	0	1	0	12	9
	West Nile virus	1	0	0	0	0	0	0	0	0	1	2	7	52

\* Totals include reports from Department of Corrections and those not reported from a specific District.

\*\* Address unknown for one case.



### **Influenza in Pregnant and Postpartum Women**

Pregnant and postpartum women are at increased risk of severe complications of influenza, including death. For this reason, it is extremely important to vaccinate all pregnant and postpartum women against influenza. Any approved inactivated TIV may be used for this purpose. LAIV is not recommended for this group.

In view of the increased risk of severe disease and death from influenza in pregnant and postpartum women, CDC is continuing the CDC Pregnancy Flu Line this influenza season. The Pregnancy Line, 404-368-2133, provides 24/7 clarification on CDC guidance for providers caring for critically ill pregnant and postpartum women via telephone consultation with a board-certified OB/GYN physician at CDC. Additionally, please report all ICU admissions and deaths among pregnant and postpartum women to MSDH at 1-800-556-0003. Nights, weekends and holidays please call 601-576-7400.