

2012 Immunization Grant Surveillance Indicator End-of-Year Progress Report

The Centers for Disease Control and Prevention (CDC)-funded Immunization and Vaccines for Children Grant provides goals for vaccine-preventable disease (VPD) surveillance for the state of West Virginia. CDC requests a mid-year and end-of-year report on our progress on the surveillance Objectives and Performance Measures listed in Appendix A. Two of the three Performance Measures address the timeliness of submission and data completeness, based on surveillance indicators.

The purpose of vaccine-preventable disease surveillance indicators in the United States is to ensure adequate performance of the essential components of surveillance and case investigation, and to identify components of each that need improvement¹, which is why it is so important to complete as much information as possible when investigating VPDs. This document contains the results of the 2012 end-of-year progress report.

From January 1 – December 31, 2012, we have not done as well as in our reporting efforts as we did during 2011. We have met 10/16 individual surveillance indicator targets (see Appendix A for list), as opposed to 14/16 during 2011. Targets we have missed during 2012 include:

2012 Objective	2012 Target	2012 Data	n
Meningococcal cases disease with complete vaccination history	90%	75%	3/4
Meningococcal disease cases with known serogroup	90%	75%	3/4
Mumps cases with appropriate clinical specimens	80%	0%	0/2
Mumps cases with complete vaccination history	90%	50%	1/2
Pertussis cases with laboratory confirmation	70%	68%	50/74
Invasive pneumococcal disease cases among children under 5 years of age with complete vaccination history	90%	69%	11/16

CDC also requests that **70%** of certain VPD cases be submitted with complete surveillance indicator information within one month of diagnosis. This target has been lowered in 2012 from 90% during previous years due to anticipated issues with the new WVEDSS. Even so, we did not meet this goal in 2012.

- 32/99 (**32%**) of VPDs monitored by CDC for the Immunization grant had complete surveillance indicator information
- 17/99 (**17%**) were submitted to CDC within one month of diagnosis
- 6/99 (**6.1%**) were submitted with complete information within one month of diagnosis

Regional data for all reported VPDs is displayed in Appendix B. Missing surveillance indicator information for individual disease categories at the state level is outlined in Appendix C. While the transition to the new West Virginia Electronic Disease Surveillance System (WVEDSS) is largely responsible for the delay in reporting to CDC, it should not have such a large impact on our ability to submit complete information about VPDs to the CDC.

While no single surveillance indicator stands out as the cause of incomplete data, West Virginia has a relatively low incidence rate of VPDs and small numbers of missing surveillance indicators add up over time and lower our data completion rate. Please see the next page for some tips on increasing our surveillance indicator completion rate in the future.

Tips for Improving Data Completeness

Race and Ethnicity

- Asking cases (or their parent/guardian) to identify race and ethnicity during the interview process. Most people will not be offended by these questions. However, if someone asks why you need that information, explain that CDC uses it to identify groups who are at higher risk for disease so appropriate prevention efforts can be made. It is better to ask and have a case refuse to answer than leave it blank because you did not want to offend someone. If you are concerned that asking for this information may jeopardize your ability to complete your interview, ask these questions last.
- Some people may not know what you're talking about if you ask them what their "ethnicity" is. You can simplify this question by asking whether or not they are Hispanic. There are many more ethnicities than simply "Hispanic or Latino" or not, but CDC is interested in this distinction since Hispanic and non-Hispanic Caucasians have different risks for different conditions.

Outbreak Information

- If there is no identified outbreak occurring in your county/region at the time, do not mark "Unknown" to reflect the fact that an outbreak may exist. If an outbreak situation evolves, it is very easy to go back in and change a "NO" response to a "YES".

Epi-linked Cases

- If a case (or their parent/guardian) cannot identify another epi-linked case, do not mark "Unknown" to reflect the fact that one must exist somewhere. With the exception of tetanus and influenza, VPDs are human diseases and are contracted from another person in some manner. This question refers to known individuals from whom the case may have contracted their disease.

Vaccine History

- Most incomplete vaccine information is due to missing date of vaccination information. Please complete vaccine history information in the appropriate Event tab first, and then associate vaccination information with the specific disease information from the Investigation tab.
- Use available resources to obtain vaccination records for cases. If the information is not available in WVSIS, these records may be obtained from a case's physician and/or school records. The state VPD epidemiologist is happy to assist in the effort to find vaccination records for VPD cases and can be reached at 304-558-5358.

A list of surveillance indicators for selected VPDs likely to be seen in West Virginia can be found on the Division of Infectious Disease Epidemiology's Vaccine-Preventable Disease webpage at: http://www.dhhr.wv.gov/oeps/disease/IBD_VPD/VPD/Documents/Surveillance%20Indicators%20for%20Selected%20Vaccine-Preventable%20Diseases.pdf and in the CDC's "Manual for the Surveillance of Vaccine-Preventable Diseases" at: <http://www.cdc.gov/vaccines/pubs/surv-manual/index.html>

Appendix A

Performance Measure Target	2012 Objective
70%	Percent of case reports with complete information submitted to CDC within one month of diagnosis for the following: Congenital Rubella Syndrome (CRS), diphtheria, haemophilus influenzae, measles, meningococcal disease, mumps, pertussis, polio, invasive pneumococcal disease, rubella, tetanus, pediatric (<18 years of age) influenza deaths, and varicella.
70%	Percent of case reports with complete information submitted electronically to CDC within one month of diagnosis for the following: Congenital Rubella Syndrome (CRS), diphtheria, haemophilus influenzae, measles, meningococcal disease, mumps, pertussis, polio, invasive pneumococcal disease, rubella, tetanus, pediatric (<18 years of age) influenza deaths, and varicella.
90%	The proportion of Haemophilus influenzae invasive disease cases among children under 5 years of age with complete vaccination history.
90%	The proportion of Haemophilus influenzae isolates from cases under 5 years of age that were serotyped.
100%	The proportion of measles cases with complete vaccination history.
100%	The proportion of measles cases or chains of transmission that have an imported source.
90%	The proportion of meningococcal cases with complete vaccination history.
90%	The proportion of meningococcal cases with known serogroup.
80%	The proportion of mumps cases for which appropriate clinical specimens were obtained and submitted to the laboratory.
90%	The proportion of mumps cases with complete vaccination history.
60%	The proportion of pertussis cases from which clinical specimens are obtained.
70%	The proportion of probable and confirmed pertussis cases meeting the clinical case definition that is laboratory confirmed.
2%	The proportion of cases confirmed by isolation of B. pertussis by culture.
50%	The proportion of probable and confirmed pertussis cases with a complete vaccination history. 50 %
90%	The proportion of pneumococcal invasive disease cases among children under 5 years of age with complete vaccination history.
80%	The proportion of pneumococcal isolates from cases of invasive disease under 5 years of age that are serotyped and tested for antibiotic resistance.
100%	The proportion of confirmed rubella cases among women of child-bearing age with known pregnancy status.
100%	The proportion of confirmed rubella cases that are laboratory confirmed.
N/A	Percentage of varicella cases with complete information for age, vaccination history, and severity of disease.

Appendix B

Region 1

(Fayette, Greenbrier, Monroe, Summers, Mercer, Raleigh, Wyoming and McDowell)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	72% (21/29)
Date of symptom onset	100% (29/29)
Date of report to Public Health	100% (29/29)
Vaccine history (including dates of administration)	55% (16/29)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	79% (23/29)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	93% (27/29)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information, transmission setting)	96% (22/23)
Complete data (all surveillance indicator information entered in WVEDSS)	34% (10/29)
Time from diagnosis to submission to CDC (in days)	Mean: 54.6 Median: 54.8 Range: 19-92

Region 2

(Jackson, Mason, Putnam, Cabell, Lincoln, Wayne, Mingo, Logan and Boone Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	71% (12/17)
Date of symptom onset	100% (17/17)
Date of report to Public Health	100% (17/17)
Vaccine history (including dates of administration)	59% (10/17)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	88% (15/17)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	94% (16/17)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	70% (7/10)
Complete data (all surveillance indicator information entered in WVEDSS)	24% (4/17)
Time from diagnosis to submission to CDC (in days)	Mean: 86.8 Median: 81 Range: 16-185

Region 3

(Jefferson, Berkeley, Morgan, Hampshire, Mineral, Grant, Hardy, Pendleton and Pocahontas Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	84% (16/19)
Date of symptom onset	100% (19/19)
Date of report to Public Health	95% (18/19)
Vaccine history (including dates of administration)	84% (16/19)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	74% (14/19)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	95% (18/19)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	53% (8/15)
Complete data (all surveillance indicator information entered in WVEDSS)	21% (4/19)
Time from diagnosis to submission to CDC (in days)	Mean: 89.1 Median: 45.8 Range: 13-224

Region 4

(Hancock, Brooke, Ohio, Marshall, Wetzel and Tyler Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	80% (8/10)
Date of symptom onset	100% (10/10)
Date of report to Public Health	100% (10/10)
Vaccine history (including dates of administration)	90% (9/10)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	100% (10/10)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	100% (10/10)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	90% (9/10)
Complete data (all surveillance indicator information entered in WVEDSS)	60% (6/10)
Time from diagnosis to submission to CDC (in days)	Mean: 47.2 Median: 38.8 Range: 31-105

Region 5

(Monongalia, Preston, Marion, Taylor, Harrison and Doddridge Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	90% (9/10)
Date of symptom onset	90% (9/10)
Date of report to Public Health	90% (9/10)
Vaccine history (including dates of administration)	50% (5/10)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	90% (9/10)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	100% (10/10)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	56% (5/9)
Complete data (all surveillance indicator information entered in WVEDSS)	40% (4/10)
Time from diagnosis to submission to CDC (in days)	Mean: 71.9 Median: 60.3 Range: 17-189

Region 6

(Pleasants, Wood, Ritchie, Wirt, Calhoun and Roane Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	25% (1/4)
Date of symptom onset	100% (4/4)
Date of report to Public Health	75% (3/4)
Vaccine history (including dates of administration)	75% (3/4)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	100% (4/4)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	100% (4/4)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	100% (3/3)
Complete data (all surveillance indicator information entered in WVEDSS)	25% (1/4)
Time from diagnosis to submission to CDC (in days)	Mean: 71.6 Median: 80.4 Range: 13-113

Region 7

(Tucker, Barbour, Randolph, Upshur, Lewis, Gilmer, Braxton, Webster, Nicholas and Clay Counties)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	40% (2/5)
Date of symptom onset	100% (5/5)
Date of report to Public Health	80% (4/5)
Vaccine history (including dates of administration)	40% (2/5)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	100% (5/5)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	100% (5/5)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	67% (2/3)
Complete data (all surveillance indicator information entered in WVEDSS)	40% (2/5)
Time from diagnosis to submission to CDC (in days)	Mean: 31.7 Median: 26 Range: 15-53

Region 8

(Kanawha County)

Surveillance Indicator	Percent of cases with complete information entered in WVEDSS (n)
Demographics (name, address, date of birth, gender and ethnicity)	80% (4/5)
Date of symptom onset	80% (4/5)
Date of report to Public Health	100% (5/5)
Vaccine history (including dates of administration)	40% (2/5)
Symptoms/Complications (including hospitalization, type of infections and underlying medical conditions)	100% (5/5)
Lab testing/information (including all additional necessary lab-related information such as serotyping and sensitivity results)	100% (5/5)
Epidemiologic data (including involvement in an outbreak, epi-links to other cases, contact tracing information)	100% (3/3)
Complete data (all surveillance indicator information entered in WVEDSS)	25% (1/4)
Time from diagnosis to submission to CDC (in days)	Mean: 36.5 Median: 40 Range: 13-224

Appendix C

Surveillance Indicators for Confirmed/Probable* Mumps Cases (n=2)	Percent complete Jan 1 – Dec 31, 2012	Missing data
Demographics (Name, address, gender, race, ethnicity, date of birth)	50% (1/2)	No race/ethnicity
Clinical Case Definition	100%	
Date of Symptom Onset	100%	
Date of Report to Public Health	50% (1/2)	1 left blank
Vaccination History	50% (1/2)	No vaccine info entered for 1
Hospitalization	100%	
Laboratory Testing	100%	
Transmission Setting	0	This is a WVEDSS error that is being addressed
Epidemiologic Data – Outbreak Related	100%	
Epidemiologic Data – Epi-linked to Another Case	0	This is a WVEDSS error that is being addressed
Epidemiologic Data – Contact Tracing Complete	0	This is a WVEDSS error that is being addressed

*Suspected cases should also include all above listed information

Surveillance Indicators for Confirmed/Probable H. flu Cases (n=3 in children < 5 years of age*)	Percent complete Jan 1 – Dec 31, 2012	Missing data
Demographics (Name, address, gender, race, ethnicity, date of birth)	33%	2 missing race/ethnicity
Clinical Case Definition	100%	
Date of Symptom Onset	100%	
Date of Report to Public Health	100%	
Vaccination History	100%	
Serotype	100%	
Specimen Source	100%	
Type of Infection	100%	

*Even though CDC only monitors completeness of data for children < 5 years of age, this information should be complete for all cases, regardless of age

Surveillance Indicators for Confirmed/Probable Meningococcal Cases (n=4)	Percent complete Jan 1 – Dec 31, 2012	Missing data
Demographics (Name, address, gender, race, ethnicity, date of birth)	100%	
Clinical Case Definition	100%	
Date of Symptom Onset	100%	
Date of Report to Public Health	100%	
Vaccination History	75%	Vaccine history missing for 1 adult
Serogroup	75%	1 unable to test for serogroup
Type of Infection	100%	

Surveillance Indicators for Confirmed Invasive <i>S. pneumoniae</i> Cases (n=16 in children < 5 years of age*)	Percent complete Jan 1 – Dec 31, 2012	Missing data
Demographics (Name, address, gender, race, ethnicity, date of birth)	69%	5 missing race/ethnicity
Clinical Case Definition	100%	
Date of Symptom Onset	100%	
Date of Report to Public Health	94%	1 left blank
Vaccination History	69%	4 missing dates of vaccination, 1 unknown
Type of Infection	100%	
Specimen Source	100%	
Underlying Medical Conditions	94%	1 unknown
Antibiotic Sensitivity Profile	94%	1 not done
Capsular Type	88%	1 isolate not sent to OLS, 1 unable to type

*Even though CDC only monitors completeness of data for children < 5 years of age, this information should be complete for all cases, regardless of age.

Surveillance Indicators for Confirmed/Probable Pertussis Cases (n=74)	Percent complete Jan 1 – Dec 31, 2012	Missing data
Demographics (Name, address, gender, race, ethnicity, date of birth)	76%	<ul style="list-style-type: none"> • 17 missing ethnicity • 15 missing race • 7 missing street address • 1 missing city address
Clinical Case Definition	100%	
Date of Symptom Onset	97%	2 left blank
Date of Report to Public Health	97%	2 left blank
Vaccination History	61%	<p>20 children with no vaccination dates</p> <p>9 adults with no vaccine information</p>
Complications (including information on hospitalization, presence of whoop, post-tussive vomiting, and paroxysmal cough, apnea, chest x-rays for pneumonia, seizures and encephalopathy)	82%	<ul style="list-style-type: none"> • 3 missing whoop • 3 missing post-tussive vomiting • 2 missing paroxysmal cough • 5 missing apnea • 8 missing chest x-ray for pneumonia data
Antibiotic Treatment	100%	
Laboratory Testing	100%	
Epidemiologic Data – Outbreak Related	89%	6 unknown, 2 left blank
Epidemiologic Data – Epi-linked to Another Case	89%	8 unknown
Epidemiologic Data – Contact Tracing Complete	92%	6 had no evidence of contact tracing in contact tracing section or notes, or response to questions about number recommended PEP