Report of 2001 Local Health Department Assessments

Infectious Disease Epidemiology Program

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INTRODUCTION

From August, 2002-April, 2003, 48 of 49 WV local health departments (LHDs) conducted an assessment of their capacity to conduct surveillance and to respond to infectious diseases. The purpose of the assessment was to evaluate the following:

1. Whether LHDs have a 24/7-notification system in place and whether these numbers have been disseminated to health care providers and laboratories.

2. Whether LHDs periodically evaluate the timeliness and completeness of reportable diseases, and to determine staff and resources needed by LHDs to provide an annual evaluation.

3. To estimate the timeliness and completeness of reporting of selected diseases.

4. To estimate under reporting of selected diseases by laboratories to LHDs.

5. Whether LHDs provide training to health care providers on disease reporting requirements, and to determine resources needed to provide such training

6. To assess adequacy of local capacity to conduct surveillance and to respond to normal and unusually large disease outbreaks.

METHODS

Questionnaire

A questionnaire for local assessments was developed by the WV Bureau for Public Health's (WVBPH) Infectious Disease Epidemiology Program (IDEP) entitled, "Supplement to the C.D.C. Emergency Preparedness and Response Inventory for Focus Area B Local Health Department Assessments" (Attachment A). The WVBPH distributed the questionnaire to LHDs in August, 2002 and requested LHDs to return a completed questionnaire by December, 2002. A completed questionnaire was obtained from 48 counties (Mid-Ohio Valley Health Department includes 6 counties) by April, 2003. Only 1 LHD, Pocahontas County, did not submit a completed questionnaire.

The questionnaire consisted of 24 questions (Q) in two Parts. Part I (Q1-Q19) addressed the 24/7 notification system, training of health care providers (HCPs), timeliness and completeness of disease reporting, and capacity to conduct surveillance. Part II (Q20-Q24) addressed the capacity to respond to outbreaks of reportable diseases.

The 24/7 emergency notification system was evaluated in terms of whether the LHD had a designated emergency contact person (Q1); how long it has it been since the LHD notified all HCPs and labs in their jurisdiction of their 24/7 emergency contact persons (Q2-Q3); and whether the department knows who to contact in IDEP, Office of Laboratory Services (OLS), and Federal Bureau for Investigation (FBI) during an emergency (Q4).

Timeliness and completeness of disease reporting was evaluated in terms of whether the LHD periodically evaluated reporting (Q5), whether they evaluated reporting in the past 12 months (Q7), and staff/resources that are needed to periodically evaluate reporting (Q6).

Surveillance indicators for timeliness and completeness was evaluated for all 2001 cases of invasive *Streptococcus pneumoniae*, influenza, West Nile virus, La Crosse encephalitis, non-typhoidal *Salmonella*, *Campylobacter* enteritis, and *E.coli* O157:H7. IDEP surveillance protocols (See WV Reportable Diseases Protocol Manual) include surveillance indicators which are measurable objectives for the evaluation of surveillance. For example, indicators include timeliness and completeness of certain information which are to be recorded on Yellow Cards and supplemental forms. The number and percentage of cases which had completed surveillance indicators (Q9a-Q9g) on timeliness and completeness was estimated.

The number of 2001 cases of invasive meningococcal disease, invasive group A *Streptococcus*, invasive *Streptococcus pneumoniae*, and invasive *Haemophilus influenzae* which were found by laboratories and reported by labs to the LHDs was determined. Each LHD was asked to contact the laboratories in their jurisdiction and obtain a list from the labs of the above mentioned 2001 cases. LHDs then determined which cases on the list from the labs had been reported to the LHD. The number and percentage of cases found by the lab and reported to LHDs was then tabulated by sterile site of the specimen tested (Q10A-Q10D).

A limited evaluation of the reliability of information submitted by LHDs was performed for cases of *Streptococcus pneumoniae*, non-typhoidal *Salmonella*, *Campylobacter* enteritis, *E.coli* O157:H7, invasive meningococcal disease, invasive group A *Streptococcus*, and *Haemophilus influenzae*. The evaluation consisted of comparing the total number of 2001 cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C.

Training of HCPs in disease reporting requirements was determined (Q12-Q14) including the LHD's capacity to conduct surveillance during disease outbreaks under normal circumstances (Q16-17) and the LHD's capacity to respond to unusually large disease outbreaks (Q18-21).

Data Collection

LHDs completed their questionnaires and either returned a copy to the WVBPH or electronically entered their questionnaire data into a database using a web-based program developed by the WVBPH. Twenty-six counties entered their data electronically. For the remaining 22 counties, IDEP entered the questionnaire data into the electronic data base.

RESULTS

24/7 Emergency Notification

Most LHDs reported having a 24/7 notification system in place. LHDs in 40 of the 48 counties (83%) responded that they had a designated contact person available 24/7 (Table 1). LHDs in only 23 of the 48 counties (48%) had notified all HCPs and laboratories in their jurisdiction of their contract person within the past year (Table 3), and 26 LHDs (54%) had not notified all HCPs and laboratories (Table 2). Although 96% of the LHDs knew the IDEP contact, 77% knew the OLS contact, and 54% knew the FBI contact (Table 4).

Timeliness and Completeness of Disease Reporting

Most LHDs did not have systems in place to periodically evaluate the timeliness and completeness of disease reporting and had not evaluated reporting during the previous year. LHDs in only 9 of 48 counties (19%) reported that they had a system in place to periodically evaluate the timeliness and completeness of reporting (Table 5) and only 11 LHDs (23%) reported that they had evaluated reporting during the previous year (Table 6). Twenty-eight LHDs reported that they needed an additional nurse to evaluate reporting (Q6). Eight (17%) LHDs reported that they participated in tabletop exercises during the previous year to evaluate their surveillance system for BT events or public health emergencies (Table 7).

LHDs offered a variety of suggestions about what HCPs and laboratorians believe can be done to increase disease reporting (Table 23, Q19): 1) demonstrate the benefits of reporting to HCPs and laboratorians, 2) make reporting simpler, 3) enforce reporting by state, 4) develop an electronic reporting system including a computer terminal in each LHD and install committed telephone lines to ensure more rapid accessibility to LHDs, 4) hire additional staff in private HCPs and labs to handle reporting, 5) provide more training in reporting requirements, and 6) increase staff in LHDs to improve active surveillance.

Evaluation of Surveillance Indicators

Results of the LHDs' evaluation of surveillance indicators (Q9) for timeliness and completeness of disease reporting are presented below for all 2001 cases of *Streptococcus pneumoniae*, influenza, West Nile virus, La Crosse encephalitis, non-typhoidal S*almonella*, *Campylobacter* enteritis, and *E.coli* O157:H7 (Tables 8-14).

1. Invasive *Streptococcus pneumoniae* (Table 8)

LHDs reviewed the records from 119 cases of invasive *Streptococcus pneumoniae* which included all cases of invasive *Streptococcus pneumoniae* and drug resistant *Streptococcus pneumoniae*. Of these 119 case-records, 91 (76%) cases had type of infection recorded, 94 (79%) had specimen source recorded, and 88 (74%) had antibiotic sensitivity profile recorded. Only 16 (13%) had a vaccine history, 39 (33%) had underlying medical condition, and 5 (4%) had capsular type recorded.

Of the 119 cases, 30 (25%) were reported to the LHD within 1 week, 51 (43%) were reported from 1-2 weeks, 4 (3%) were reported from 3-4 weeks, and 21 (18%) were reported 4 weeks or more after onset of symptoms.

Fewer cases of invasive *Streptococcus pneumoniae* were reported by the state to C.D.C. during 2001 (108) than were reported by LHDs in this study (119) (119/108x100%=110%). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was less than 5 for all but 3 counties.

2. Influenza (Table 9)

The total number of MMWR weeks for which influenza cases were reported ranged from 5 to 52 among counties. Only 13 (27%) of 48 counties had conducted virologic surveillance. Data were not reported by 16 (33%) of the counties.

3. West Nile virus (Table 10)

Twelve (25%) of 48 counties reported they submitted 21 dead birds for testing in 2001. Eighteen cases of encephalitis were reported during May-October, 2001, and LHDs reported that 9 (50%) encephalitis cases were tested for EEE, SLE, LAC, and WNV.

4. LaCrosse encephalitis (Table 11)

LHDs reviewed records from 40 cases of LaCrosse encephalitis. Of the 40 case-records, 37 (93%) had a complete history on geographic location, travel history, and outdoor exposure history; 24 (60%) had a GIS reading on the location of the household of the case; and 35 (88%) had information on a home visit which was completed for patient and family education. Of the 40 cases, LHDs reported that 10 (25%) were tested for EEE, SLE, LAC and. WNV.

Of the 40 cases, 20 (50%) were reported to LHDs within 1 week, 17 (43%) were reported from 1-2 weeks, 2 (5%) were reported from 3-4 weeks, and 1 (3%) was reported 4 weeks or more after onset of symptoms.

5. Non-typhoidal *Salmonella* (Table 12)

LHDs reviewed records from 123 *Salmonella* cases. Of the 123 cases, 98 (80%) were confirmed with known non-typhoidal *Salmonella* serotype. Of the 123 case-records, 107 (87%) had complete demographic information, 107 (87%) had complete information on high-risk occupations, 83 (67%) had information on antibiotic susceptibility profile, and 50 (41%) had complete risk factor information including a 3-day food history.

Of the 123 cases, 44 (36%) were reported within 1 week, 42 (34%) were reported from 1-2 weeks, 15 (12%) were reported from 3-4 weeks, and 11 (9%) were reported 4 weeks or more after onset of symptoms.

More cases of non-typhoidal *Salmonella* were reported by the state during 2001 (183) than were reported by LHDs in this study (123) (123/183x100%=80%). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was less than 5 for all but 2 counties.

6. *Campylobacte*r enteritis (Table 13)

LHDs reviewed records from 74 cases of *Campylobacter* enteritis. Of the 74 cases, 71 (96%) were confirmed cases, 3 (4%) of the cases had isolates tested with PFGE, 70 (95%) had complete demographic information recorded, 56 (75%) had complete information on high risk occupations, and 37 (50%) had complete risk factor investigation information including a food history.

Of the 74 cases, 31 (42%) were reported within 1 week, 24 (32%) were reported from 1-2 weeks, 7 (9%) were reported from 3-4 weeks, and 8 (11%) were reported 4 weeks or more after onset of symptoms.

More cases of *Campylobacter* enteritis were reported by the state during 2001 (87) than were reported by LHDs in this study (74) (74/87x100%=85%). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was less than 5 for all but 1 county.

7. *E. coli* O157:H7 (Table 14)

LHDs reviewed records from 9 cases of *E.coli* O157:H7. Of these 9 cases, 9 (100%) had complete demographic information, 7 (78%) had complete information on high risk occupations, 6 (67%) had OLS confirmation and had completed PFGE testing, and 7 (78%) had complete risk factor information including a 2- to 8-day food history.

Of the 9 cases, 0 (0%) were reported within 24 hours, 4 (44%) were reported from 1-7 days, 1 (11%) was reported from 8-14 days, and 3 (33%) were reported 14 days or more after onset of symptoms.

More cases of *E.coli* O157:H7 were reported to the state during 2001 (11) than were reported by LHDs in this study (9) (9/11x100%=82%). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was 1 or less for all counties.

Evaluation of Under-Reporting of Cases

All cases of invasive meningococcal disease, invasive group A *Streptococcus*, invasive *Streptococcus pneumoniae*, and invasive *Haemophilus influenzae* which were found by hospital laboratories during 2001 and subsequently reported to the LHDs (Q10) were tabulated by sterile site of the specimen tested. Results are presented below.

1. Invasive meningococcal disease (Table 15)

Eighteen cases of invasive meningococcal disease were found by laboratories (7 from blood and 11 from CSF isolates), and 17 (94%) of the 18 cases were reported to the LHDs.

Fewer cases of invasive meningococcal disease were reported by the state to C.D.C. during 2001 (15) than were reported by LHDs in this study (17) (17/15x100%=113%).

2. Invasive group A *Streptococcus* (Table 16)

Forty-seven cases of invasive group A *Streptococcus* were found by laboratories (41 from blood, 2 from CSF, and 4 from other sterile site isolates), and 35(74%) of the 47 cases were reported to LHDs (80% for blood, 50% for CSF, and 25% for other isolates).

Fewer cases of invasive group A *Streptococcus* were reported by the state to C.D.C. during 2001 (25) than were reported by LHDs in this study (35) (35/25x100%=140%). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was less than 5 for all but 1 county.

3. Invasive *Streptococcus pneumoniae* (Table 17)

One hundred and eight-three cases of invasive *Streptococcus pneumoniae* were found by laboratories (167 from blood, 11 from CSF, and 5 from other sterile site isolates), and 108 (59%) of the 183 cases were reported by LHDs (57% for blood, 73% for CSF, and 80% for other sterile sites). Although all hospital and private labs in

the state did not participate in the assessment survey, it is noteworthy that 108 cases were also reported by the state to C.D.C. during 2001.

4. Invasive *Haemophilus influenzae* (Table 18)

Twenty-eight cases of *Haemophilus influenzae* were found by laboratories (21 from blood, 2 from CSF and 5 from other sterile sites),and 10 (36%) of these cases were reported to LHDs (33% from blood, 0% from CSF, and 60% from other sterile sites).

More cases of invasive *Haemophilus influenzae* were reported by the state to C.D.C. during 2001 (16) than were reported by LHDs in this study (10/16x100%=57). The difference between the total number of cases reported by LHDs to the state in this study versus the total number of cases reported by the state to C.D.C. was less than 5 for all counties.

Training/education of HCPs and LHD staff

Twenty-seven (56%) LHDs provided training/education to HCPs on infections/syndromes that require less than 24 hour notification of LHDs, 18 (38%) of the counties provided education to providers on epidemiology, 22 (46%) provided education on surveillance, 16 (33%) provided education on interpretation of clinical and laboratory information, and 35 (73%) provided information on disease reporting requirements (Table 19, Q12A-E).

Thirty (62%) LHDs reported that their staff needed training in reportable diseases in order to effectively provide training to providers (Table 20, Q14). LHDs indicated that their primary training needs were (Table 21, Q15) 1) surveillance methods including disease confirmation, disease protocols, and the reportable disease manual, 2) new reportable disease requirements, 3) basic epidemiologic skills, 4) interpretation of laboratory data and a review of lab test procedures, 5) legal issues, 6) bioterrorism, and 6) updates about changes in public health.

Capacity for Surveillance and Response

Twenty-six (54%) LHDs reported that they had sufficient capacity to provide 24/7 emergency response to reportable disease under normal circumstances (Table 22, Q16). Twenty (42%) LHDs reported that they need additional nurses, sanitarians, or epidemiologists for surveillance of reportable diseases under unusual circumstances (Q18A). Nine counties reported they needed communication equipment such as cell phones and pagers (Q18C).

Three (6%) LHDs have capacity to respond to a very large outbreak (Table 24, Q20). Less than half (43%) of the LHDs are prepared to disseminate medical management information for all Category A BT agents within 1 hour to HCPs and first responders (Table 25, Q22). Only 19 (30%) LHDs have information on frequently asked questions for the Category A BT agents.

DISCUSSION

The data collected for this report were provided by LHDs in 48 of 49 WV counties who submitted a completed questionnaire to the WVBPH. Several caveats should be noted when interpreting these data. First, the instrument was not field tested, and thus, some questions which were confusing were excluded from this report. Second, the assessments were completed between August, 2002 to January, 2003 and do not necessarily represent the status of capacity and systems currently in place.

Third, with regard to question 9 of the questionnaire, the time from date of disease onset to date reported to the LHD is not necessarily a measure of compliance to the mandatory reporting period because a patient may have presented to a physician and been tested by a lab some time after onset of symptoms.

Fourth, with regard to the evaluation of surveillance indicators for timeliness and completeness in Question 9, the number of cases reported by the state to C.D.C. during 2001 were within 10-20% of the numbers reported by LHDs in this study for the diseases evaluated. Although approximately 20% more cases of salmonella were reported by the state in 2001 than were reported by LHDs in this report, the percentage of cases serotyped was the same (80%) in the state and LHD data. Thus, although the reliability of the LHD data were not rigorously evaluated for each disease, the estimate of the percentage of cases by surveillance indicator may not be greatly biased.

Fifth, with respect to questions 9 and 10, it is unclear whether missing information is due to lack of reporting or no cases.

Finally, with regard to the survey of 2001 cases found by labs (Question 10), LHDs were not asked to report the names of the non-participating hospital labs. Under reporting bias was not evaluated. Under reporting could arise from non-participation by hospitals and incomplete information reported by LHDs or hospitals.

Conclusions from the LHD assessments are summarized as follows:

<u>24/7 Notification System</u>

1. **Less than half of the LHDs had notified HCPs and labs in their jurisdiction of their emergency contact persons.**

   While most (83%) LHDs had designated a 24/7 primary emergency contact person, only 48% of the LHDs had notified HCPs in their jurisdiction of their emergency contact persons during the past year. A small number (8) of health departments reported having no 24/7 primary contact person. HCPs and laboratories need to know the 24/7 emergency numbers of all LHD contacts. This should be a priority for implementation of the LHDs' 2003-2004 BT threat preparedness planning.

<u>Timeliness and Completeness of Disease Reporting</u>

2. **Few LHDs had evaluated the timeliness and completeness of disease reporting during the past year.**

   Only 19% of the LHDs had periodically evaluated the timeliness and completeness of disease reporting and only 23% had done this during the past year. A top priority of LHDs in 2003-2004 should be to implement an on-going evaluation of disease reporting to identify problems and implement solutions to improve reporting.

3. **LHDs reported that HCPs and laboratorians believe disease reporting could be increased if the following was done**:
   a. **Demonstrate the benefits of reporting to HCPs and laboratorians**
   b. **Make reporting simpler.**
   c. **Enforce reporting by state.**
   d. **Develop an electronic reporting system.**
   e. **Hire additional staff in private HCPs and labs to handle reporting.**
   f. **Provide more training in reporting requirements.**
   g. **Increase staff in LHDs to improve on active surveillance.**

A primary goal of the state is to improve disease reporting by implementing a system for HCPs and labs to report diseases electronically. This is a primary objective to be accomplished by the state during 2003-2004 using BT grant funds. A secondary goal of the state is for the state and LHDs to provide on-going feedback to HCPs and laboratorians concerning timeliness and completeness of disease reporting. Increasing staff in HCP offices, labs and LHDs is the responsibility of these organizations to meet reporting requirements. Enforcement of reporting by the state is not feasible with current resources.

Evaluation of Surveillance Indicators

Conclusions from the evaluation of surveillance indicators are indicated as follows:

4. **Invasive *Streptococcous pneumoniae*:**
   a. **Specimen source was unknown in 21% of the cases reported by LHDs.**
   b. **Antibiotic sensitivity profile was missing in 26% of the cases.**
   c. **Vaccine history and capsular type were rarely recorded on cases of invasive *Streptococcus pneumoniae*.**
   d. **Cases of invasive *Streptococcus pneumoniae* were usually reported within a reasonable time period; however, late reporting is still a problem in a large number of cases.**

   Specimen source is important in determining whether the reported case meets the case definition. Antibiotic sensitivity profile is important because antibiotic resistance is rising for invasive *Streptococcus pneumoniae*. Vaccine history and capsular type are important to evaluate whether the case was due to failure of the vaccine versus failure to vaccinate.

   Although most cases (68%) were reported within 2 weeks after onset of symptoms, 18% were reported 4 weeks or more after onset of symptoms. Thus, although the timeliness of reporting rates seems acceptable for most cases, explanations for the cases reported over 4 weeks or more should be evaluated to assess how surveillance and reporting could be improved.

5 **Influenza:**
   a. **Few counties participated in year-round surveillance for influenza-like illness.**
   b. **Few counties participated in virologic surveillance.**

   Given increasing recognition of the need for pandemic influenza preparedness, it is essential for all counties to participate in influenza surveillance. Clearly, electronic reporting of influenza and pneumonia will

greatly improve influenza surveillance in W.V. Virologic surveillance should be increased to include at least one sentinel provider in each county.

6. **West Nile virus: Half of the cases of encephalitis during May-October were not tested for geographically appropriate arboviruses (EEE, SLE, LAC, and WNV)**.

   The number of cases tested for geographically appropriate arbovirus will likely increase in 2003 because of the increased awareness of WNV and the implementation of testing at the Office of Laboratory Services. All cases of encephalitis during May to October should be evaluated and tested for geographically appropriate arboviruses.

7. **LaCrosse encephalitis: Seventy-five % of encephalitis cases were not tested for geographically appropriate arboviruses.**

   Data on geographic location, travel history, outdoor exposure, GIS reading for the residence of the case, and records of home visits were complete for most LaCrosse encephalitis cases (60-93%). However, only 25% of the cases reported by LHDs were tested for EEE, SLE, LAC, and WNV which was probably due to limited testing availability in the state during that season. Timeliness of reporting was very good, 93% reported within 2 weeks of onset of symptoms. All cases of encephalitis during May to October should be evaluated and tested for geographically appropriate arboviruses.

8. **Non-typhoidal *Salmonella*:**
   a. **41% of the cases had a food history recorded.**
   b. **20% of cases were not serotyped.**
   c. **87% had complete demographic or high risk occupational histories.**
   d. **70% were reported within 2 weeks following onset of symptoms.**

   A complete food and risk factor history is necessary in order to investigate sources of infection and compile necessary information to control community exposures and transmission. A complete occupational history helps to prevent community transmission. In addition, food history is important for detecting point source transmission and on-going transmission from a single source in the community.

   Because of delays in reporting results in poor recall of food history, consideration is being given to reducing the reporting time in the communicable disease rule (e.g., from 1 week to 72 hours). In the meantime, prompt and complete investigation continues to be important.

9. ***Campylobacter* enteritis:**
   a. **4% of isolates were reported as having been submitted for PFGE.**
   b. **50% of the cases had a complete food history recorded.**
   c. **95% had complete demographic information.**
   d. **24% did not have information on high risk occupation recorded.**
   e. **74% were reported within 2 weeks of disease onset.**

   A complete food history and occupational history is important for reasons mentioned above. PFGE testing of isolates is important to detect outbreaks.

10. ***E.coli* O157:H7:**

a. **22% did not have a complete food history.**
b. **100% had complete demographic information recorded.**
c. **22% did not have complete high risk occupation recorded.**
d. **Only 67% had OLS lab confirmation and PFGE.**
e. **55% were reported within 2 weeks of disease onset.**

Importance of food history, occupational history, and PFGE are described above.

Evaluation of Under-Reporting of Cases

Conclusions about under reporting by laboratories with respect to sterile site of isolate are as follows:

11. **Invasive meningococcal disease: The percentage of cases of meningococcal disease reported by labs to LHDs was very high.**

    Ninety-four percent of the cases were reported to LHDs.

12. **Invasive group A *Streptococcus* : The percentage of cases of invasive group A *Streptococcus* reported by labs to LHDs was modest overall and was very low for CSF and other isolates.**

    The percent reported by labs was 74% overall, 80% for blood isolates, 50% for CSF, and 25% for other sterile sites. LHDs should work with providers to educate providers in reporting procedures for this disease and to identify explanations for not reporting.

13. **Invasive *Streptococcus pneumoniae*: The percentage of cases of invasive *Streptococcus pneumoniae* reported by labs to LHDs was low particularly for blood isolates.**

    The percent reported by labs was 57% overall, 57% for blood isolates, 73% for CSF, and 80% for other sterile sites. It is important to improve reporting for this vaccine preventable disease.

14. **Invasive *Haemophilus influenzae* : The percentage of cases of invasive *Haemophilus influenzae* reported by labs to LHDs was low.**

    The percentage of cases reported by labs to LHDs was only 38%. Of the 28 cases reported by labs, only 10 were reported to LHDs. Only 16 were reported to the state during 2001. It is important to improve reporting because control measures must be implemented urgently for invasive *Haemophilus influenzae* type b. Explanations for low reporting need to be determined.

Training and Education of HCPs and LHD Staff

15. **Most LHDs (73%) have provided training of HCPs on reportable disease requirements.**

    The content and method of presentation of this training was not evaluated.

16. **Many LHDs reported that they needed further training of their staff in surveillance and epidemiologic response procedures and reporting requirements.**

Sixty-two percent of the LHDs reported that they need further training of their staff to effectively provide training to HCPs. LHDs reported that they need training on (1) surveillance methods including disease confirmation, disease protocols, and the reportable disease manual, 2) new reportable disease requirements, 3) basic epidemiologic skills, 4) interpretation of laboratory data and a review of lab test procedures, 5) legal issues, 6) bioterrorism, and 6) updates about changes in public health. IDEP continues to provide quarterly training for LHD staff in these areas and continues to welcome input from LHDs on content of the IDEP training program.

Capacity for Surveillance and Response

17. Only 54% of the LHDs reported that they had sufficient capacity to provide 24/7 emergency coverage to respond to reportable diseases.

Most reported they needed additional staff to improve capacity to respond.

18. Less than half (43%) of the LHDs are prepared to disseminate medical management information of Category A BT diseases within 1 hour to HCPs and first responders.

Only 30% of the LHDs have information on FAQs for Category A BT diseases.

Table 1

Q1. Does the Department have a designated contact person available 24/7?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	Y
Braxton	N
Brooke	Y
Cabell	Y
Clay	N
Doddridge	Y
Fayette	Y
Gilmer	Y
Grafton-Taylor	Y
Grant	Y
Greenbrier	Y
Hampshire	Y
Hancock	Y
Hardy	Y
Harrison	Y
Jackson	Y
Jefferson	Y
Kanawha	Y
Lewis	Y
Lincoln	Y
Logan	Y
Marion	N
Marshall	N
Mason	N
McDowell	Y
Mercer	Y
Mid-Ohio Valley**	Y
Mineral	Y
Mingo	Y
Monongalia	N
Monroe	Y
Morgan	Y
Nicholas	Y
Ohio	Y
Pendleton	Y
Pocahontas***	
Preston	Y
Putnam	Y

Table 1

Q1. Does the Department have a designated contact person available 24/7?

LHD by County	Yes/No
Raleigh	Y
Randolph	Y
Summers	Y
Tucker	Y
Upshur	Y
Wayne	Y
Webster	Y
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**40**
PERCENT YES*	**83**

* 48 counties participated; 48 counties used as denominator in percentage.
** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.
*** Pocahontas County Health Department did not submit a questionnaire on assessments.

Table 2

Q2. Has the department notified all health care providers and laboratories of their emergency contact persons?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	N
Braxton	N
Brooke	Y
Cabell	Y
Clay	N
Doddridge	N
Fayette	Y
Gilmer	Y
Grafton-Taylor	N
Grant	Y
Greenbrier	Y
Hampshire	Y
Hancock	N
Hardy	N
Harrison	N
Jackson	Y
Jefferson	N
Kanawha	Y
Lewis	Y
Lincoln	Y
Logan	N
Marion	N
Marshall	N
Mason	N
McDowell	N
Mercer	Y
Mid-Ohio Valley**	N
Mineral	N
Mingo	Y
Monongalia	N
Monroe	N
Morgan	Y
Nicholas	Y
Ohio	Y
Pendleton	Y
Pocahontas***	
Preston	Y
Putnam	Y
Raleigh	Y

Table 2

Q2. Has the department notified all health care providers and laboratories of their emergency contact persons?

LHD by County	Yes/No
Randolph	N
Summers	Y
Tucker	N
Upshur	Y
Wayne	Y
Webster	Y
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**26**
PERCENT YES*	**54**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

*** Pocahontas County Health Department did not submit a questionnaire on assessments .

Table 3

Q3. How long ago were all providers and laboratories notified of the department's emergency contact persons and telephone numbers?

LHD by County	Never	<1 mo	1-6 mos	6-12 mos	>12 mos	Unknown
Barbour				X		
Berkeley				X		
Boone	X					
Braxton	X					
Brooke			X			
Cabell			X			
Clay						X
Doddridge	X					
Fayette					X	
Gilmer			X			
Grafton-Taylor	X					
Grant				X		
Greenbrier		X				
Hampshire					X	
Hancock					X	
Hardy						X
Harrison	X					
Jackson		X				
Jefferson	X					
Kanawha				X		
Lewis		X				
Lincoln			X			
Logan			X			
Marion						X
Marshall	X					
Mason				X		
McDowell	X					
Mercer					X	
Mid-Ohio Valley**	X					
Mineral	X					
Mingo				X		
Monongalia	X					
Monroe	X					
Morgan				X		
Nicholas				X		
Ohio			X			
Pendleton		X				
Pocahontas***						
Preston		X				
Putnam			X			

Table 3

Q3. How long ago were all providers and laboratories notified of the department's emergency contact persons and telephone numbers?

LHD by County	Never	<1 mo	1-6 mos	6-12 mos	>12 mos	Unknown
Raleigh				X		
Randolph					X	
Summers		X				
Tucker	X					
Upshur				X		
Wayne					X	
Webster					X	
Wetzel/Tyler						X
Wyoming	X					
TOTALS	**14**	**6**	**7**	**10**	**7**	**4**
PERCENT*	**29**	**13**	**15**	**21**	**15**	**8**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 4
Q4. Do the department's contact persons know whom to contact during a bioterrorism event or emergency in IDEP, OLS, and FBI?

LHD by County	Q4A - IDEP	Q4B - OLS	Q4C - FBI
Barbour	Y	N	N
Berkeley	Y	Y	Y
Boone	Y	N	N
Braxton	Y	Y	N
Brooke	Y	Y	Y
Cabell	Y	Y	Y
Clay	Y	Y	N
Doddridge	Y	Y	Y
Fayette	Y	Y	Y
Gilmer	Y	Y	Y
Grafton-Taylor	Y	Y	N
Grant	Y	Y	Y
Greenbrier	Y	N	Y
Hampshire	Y	Y	N
Hancock	N	N	N
Hardy	Y	Y	N
Harrison	Y	Y	Y
Jackson	Y	Y	Y
Jefferson	Y	Y	Y
Kanawha	Y	Y	Y
Lewis	Y	Y	Y
Lincoln	Y	Y	N
Logan	Y	Y	Y
Marion	N	N	N
Marshall	Y	Y	N
Mason	Y	Y	Y
McDowell	Y	N	N
Mercer	Y	N	N
Mid-Ohio Valley**	Y	Y	Y
Mineral	Y	Y	N
Mingo	Y	Y	Y
Monongalia	Y	N	N
Monroe	Y	N	N
Morgan	Y	Y	N
Nicholas	Y	Y	Y
Ohio	Y	Y	Y
Pendleton	Y	N	N
Pocahontas***			
Preston	Y	Y	N
Putnam	Y	Y	Y

Table 4

Q4. Do the department's contact persons know whom to contact during a bioterrorism event or emergency in IDEP, OLS, and FBI?

LHD by County	Q4A - IDEP	Q4B - OLS	Q4C - FBI
Raleigh	Y	N	N
Randolph	Y	Y	Y
Summers	Y	Y	N
Tucker	Y	Y	Y
Upshur	Y	Y	Y
Wayne	Y	Y	Y
Webster	Y	Y	N
Wetzel/Tyler	Y	Y	Y
Wyoming	Y	Y	Y
TOTAL YES	46	37	26
PERCENT YES*	96	77	54

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 5
Q5. Are systems in place to periodically evaluate the timeliness and completeness of reporting by health care providers and laboratorians?

LHD by County	Yes/No
Barbour	N
Berkeley	N
Boone	N
Braxton	N
Brooke	Y
Cabell	N
Clay	N
Doddridge	N
Fayette	N
Gilmer	Y
Grafton-Taylor	N
Grant	Y
Greenbrier	N
Hampshire	N
Hancock	N
Hardy	N
Harrison	N
Jackson	N
Jefferson	Y
Kanawha	N
Lewis	N
Lincoln	Y
Logan	Y
Marion	N
Marshall	N
Mason	Y
McDowell	Y
Mercer	N
Mid-Ohio Valley**	N
Mineral	N
Mingo	N
Monongalia	N
Monroe	N
Morgan	Y
Nicholas	N
Ohio	N
Pendleton	N
Pocahontas***	
Preston	N
Putnam	N

Table 5
Q5. Are systems in place to periodically evaluate the timeliness and completeness of reporting by health care providers and laboratorians?

LHD by County	Yes/No
Raleigh	N
Randolph	N
Summers	N
Tucker	N
Upshur	N
Wayne	N
Webster	N
Wetzel/Tyler	N
Wyoming	N
TOTALYES	**9**
PERCENT YES*	**19**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 6
Q7. In the past 12 months has the department evaluated its reportable disease surveillance system?

LHD by County	Yes/No
Barbour	N
Berkeley	N
Boone	N
Braxton	N
Brooke	N
Cabell	N
Clay	N
Doddridge	N
Fayette	N
Gilmer	N
Grafton-Taylor	N
Grant	Y
Greenbrier	Y
Hampshire	N
Hancock	N
Hardy	N
Harrison	N
Jackson	Y
Jefferson	Y
Kanawha	Y
Lewis	N
Lincoln	Y
Logan	N
Marion	N
Marshall	N
Mason	Y
McDowell	N
Mercer	N
Mid-Ohio Valley**	N
Mineral	N
Mingo	N
Monongalia	N
Monroe	N
Morgan	Y
Nicholas	N
Ohio	N
Pendleton	N
Pocahontas***	
Preston	N
Putnam	N

Table 6
Q7. In the past 12 months has the department evaluated its reportable disease surveillance system?

LHD by County	Yes/No
Raleigh	Y
Randolph	N
Summers	Y
Tucker	Y
Upshur	N
Wayne	N
Webster	N
Wetzel/Tyler	N
Wyoming	N
TOTALYES	**11**
PERCENT YES*	**23**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 7
Q8. In the past 12 months has the department conducted a tabletop or functional exercise to evaluate its surveillance system for BT events or public health emergencies?

LHD by County	Yes/No
Barbour	N
Berkeley	N
Boone	N
Braxton	N
Brooke	N
Cabell	N
Clay	N
Doddridge	N
Fayette	N
Gilmer	N
Grafton-Taylor	Y
Grant	N
Greenbrier	N
Hampshire	N
Hancock	N
Hardy	N
Harrison	N
Jackson	Y
Jefferson	Y
Kanawha	Y
Lewis	N
Lincoln	Y
Logan	N
Marion	N
Marshall	N
Mason	N
McDowell	N
Mercer	N
Mid-Ohio Valley**	N
Mineral	N
Mingo	N
Monongalia	N
Monroe	Y
Morgan	N
Nicholas	N
Ohio	N
Pendleton	N
Pocahontas***	
Preston	N
Putnam	N

Table 7

Q8. In the past 12 months has the department conducted a tabletop or functional exercise to evaluate its surveillance system for BT events or public health emergencies?

LHD by County	Yes/No
Raleigh	N
Randolph	Y
Summers	N
Tucker	Y
Upshur	N
Wayne	N
Webster	N
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**8**
PERCENT YES*	**17**

* 48 counties participated; 48 counties used as denominator in percentage

** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 8
Q9A. Number of Invasive *Streptococcus Pneumoniae* Cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria						Reporting Criteria					Total Cases
	Type	Specimen Source	Vaccine History	Med. Cond.	AB Sens	Capsular Type	1 wk*	1-2wk	3-4wk	>4wk	Unk	
Barbour												0
Berkeley	9	9	3	3	9	0	0	2	1	4	2	9
Boone	0	1	0	0	1	0	1	0	0	0	0	1
Braxton												0
Brooke	2	2	0	1	2	1	1	0	0	1	0	2
Cabell-Huntington	4	4	0	2	4	0	3	1	0	0	0	4
Clay							0	0	0	1	0	1
Doddridge												0
Fayette	8	8	3	7	8	0	3	1	0	4	0	8
Gilmer												0
Grafton-Taylor												0
Grant												0
Greenbrier	1	1	0	0	1	0	1	0	0	0	0	1
Hampshire	1	1	0	0	1	0	0	0	0	1	0	1
Hancock	4	4	2	2	2	2	1	3	0	0	0	4
Hardy	1	1	1	0	1	0	0	1	0	0	0	1
Harrison	1	1	0	0	1	0	1	0	0	0	0	1
Jackson	1	1	0	0	1	0	0	1	0	0	0	1
Jefferson	1	1	0	1	0	0	1	0	0	0	0	1
Kanawha	23	23	2	2	23	0	0	28	0	0	0	28
Lewis							2	0	0	7	0	9
Lincoln												0
Logan												0
McDowell												0
Marion	17	17	0	11	17	0	9	6	2	0	0	17
Marshall												0
Mason												0
Mercer	4	4	1	0	3	0	0	2	1	1	0	4
Mid-Ohio Valley+												0
Mineral												0
Mingo												0
Monongalia	2	2	0	2	2	2	0	0	0	0	2	2
Monroe	1	1	0	0	0	0	0	1	0	0	0	1
Morgan												0
Nicholas	1	1	0	1	1	0	1	0	0	0	0	1
Ohio	3	3	0	0	3	0	1	2	0	0	0	3
Pendleton												0
Pocahontas++												0
Preston												0

Table 8

Q9A. Number of Invasive *Streptococcus Pneumoniae* Cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria						Reporting Criteria					Total Cases
	Type	Specimen Source	Vaccine History	Med. Cond.	AB Sens	Capsular Type	1 wk*	1-2wk	3-4wk	>4wk	Unk	
Putnam	1	1	0	1	1	0	1	0	0	0	2	3
Raleigh	3	3	2	2	2	0	1	1	0	1	0	3
Randolph	0	2	0	0	2	0	0	2	0	0	0	2
Summers							0	0	0	0	1	1
Tucker												0
Upshur	3	3	2	2	3	0	3	0	0	1	0	4
Wayne							0	0	0	0	6	6
Webster												0
Wetzel/Tyler												0
Wyoming												0
TOTAL	**91**	**94**	**16**	**39**	**88**	**5**	**30**	**51**	**4**	**21**	**13**	**119**
PERCENT	**76**	**79**	**13**	**33**	**74**	**4**	**25**	**43**	**3**	**18**	**11**	**100**

* One week mandatory reporting criteria

** **Evaluation criteria**: the following information was complete in the department's records:

Type: Type of infection

Specimen Source

Vaccine History

Med. cond.: Underlying medical conditions

AB Sens.: Antibiotic sensitivity profile

Capsular Type: known capsular type

Reporting Criteria: Time between date of symptom onset to date reported to LHD.

\+ Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

++Pocahontas did not submit a questionnaire for assessments.

Table 9

Q9B. The number of MMWR weeks for which the total of ILI's are available at county. Was virologic surveillance conducted in county by the 2001-2002 season?

LHD by County	# of MMWR weeks	Virologic surveillance. Yes/No
Barbour		Y
Berkeley	52	N
Boone		N
Braxton		N
Brooke	52	Y
Cabell	52	N
Clay	11	N
Doddridge		N
Fayette	52	N
Gilmer	52	N
Grafton-Taylor	20	N
Grant	52	Y
Greenbrier		N
Hampshire	44	N
Hancock	36	N
Hardy	52	N
Harrison	49	N
Jackson	52	Y
Jefferson	52	Y
Kanawha		Y
Lewis	19	N
Lincoln	52	N
Logan	52	Y
Marion		N
Marshall	49	N
Mason	52	N
McDowell		N
Mercer	52	N
Mid-Ohio Valley**	52	N
Mineral		N
Mingo		N
Monongalia		N
Monroe	52	Y
Morgan		N
Nicholas	47	Y
Ohio	13	Y
Pendleton	17	Y
Pocahontas***		

Table 9

Q9B. The number of MMWR weeks for which the total of ILI's are available at county. Was virologic surveillance conducted in county by the 2001-2002 season?

LHD by County	# of MMWR weeks	Virologic surveillance. Yes/No
Raleigh	52	Y
Randolph	21	N
Summers	52	N
Tucker	17	N
Upshur	52	N
Wayne		N
Webster	52	N
Wetzel/Tyler		N
Wyoming		N
TOTAL weeks	**1363**	
TOTAL YES		**13**
PERCENT YES*		**27**

* 48 counties participated; 48 counties used as denominator in percentage

** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 10

Q9C. West Nile virus : Number of dead birds submitted during 2001, number of weeks that dead bird reports were submitted during May-Oct., 2001, number of cases of encephalitis during May-Oct 2001, and number of cases of encephalitis tested for EEE, SLE, LAC, and WNV during May-Oct 2001

LHD by County	Dead Birds	Submitted Reports	Human 2001 Encephalitis	EEE, SLE, LAC, WNV
Barbour				
Berkeley	3	20	0	0
Boone				
Braxton	1	1	0	0
Brooke	2	1	0	0
Cabell				
Clay	0	0	0	0
Doddridge				
Fayette	0	0	0	0
Gilmer				
Grafton-Taylor				
Grant				
Greenbrier	0	0	0	0
Hampshire	1	10	0	0
Hancock				
Hardy	0		0	0
Harrison	0	8	0	0
Jackson	1	0	0	0
Jefferson	8	26	0	0
Kanawha	1	0	4	0
Lewis				
Lincoln				
Logan				
Marion				
Marshall	1	0	0	0
Mason				
McDowell				
Mercer	0	0	5	5
Mid-Ohio Valley*	0	0	0	0
Mineral				
Mingo	1	0	0	0
Monongalia				
Monroe	0	21	2	2
Morgan				
Nicholas	0	0	5	0
Ohio	5	3	1	1
Pendleton	1	6	0	0

Table 10

Q9C. West Nile virus : Number of dead birds submitted during 2001, number of weeks that dead bird reports were submitted during May-Oct., 2001, number of cases of encephalitis during May-Oct 2001, and number of cases of encephalitis tested for EEE, SLE, LAC, and WNV during May-Oct 2001

LHD by County	Dead Birds	Submitted Reports	Human 2001 Encephalitis	EEE, SLE, LAC, WNV
Preston	1	0	0	0
Putnam	0	0	0	0
Raleigh				
Randolph	0	26	0	0
Summers	0	0	1	1
Tucker	0	26	0	0
Upshur				
Wayne				
Webster				
Wetzel/Tyler				
Wyoming				
TOTAL	**26**	**148**	**18**	**9**

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

** Pocahontas did not submit a questionnaire for assessments .

Table 11
Q9D. Number of LaCrosse cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria				Reporting Criteria				Total Cases
	Number	Complete History	GIS Reading	Home Visit	1 wk*	1-2wk	3-4wk	>4wk	
Barbour									0
Berkeley									0
Boone	0	3	3	3	1	1	1	0	3
Braxton									0
Brooke									0
Cabell-Huntington									0
Clay									0
Doddridge									0
Fayette	0	4	0	5	3	2	0	0	5
Gilmer									0
Grafton-Taylor									0
Grant									0
Greenbrier	4	3	0	0	4	0	0	0	4
Hampshire									0
Hancock									0
Hardy									0
Harrison									0
Jackson									0
Jefferson									0
Kanawha	0	5	0	5	3	2	0	0	5
Lewis									0
Lincoln									0
Logan	1	1	1	1	0	1	0	0	1
McDowell									0
Marion									0
Marshall									0
Mason									0
Mercer	2	5	5	5	5	0	0	0	5
Mid-Ohio Valley*									0
Mineral									0
Mingo									0
Monongalia									0
Monroe	1	1	0	0	0	1	0	0	1
Morgan									0
Nicholas	0	2	2	2	2	0	0	0	2
Ohio									0
Pendleton									0
Pocahontas**									0
Preston									0

Table 11
Q9D. Number of LaCrosse cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria				Reporting Criteria				Total Cases
	Number	Complete History	GIS Reading	Home Visit	1 wk*	1-2wk	3-4wk	>4wk	
Putnam									0
Raleigh	0	12	12	12	1	9	1	1	12
Randolph	1	0	1	1	0	1	0	0	1
Summers	1	1	0	1	1	0	0	0	1
Tucker									0
Upshur									0
Wayne									0
Webster									0
Wetzel/Tyler									0
Wyoming									0
TOTAL	**10**	**37**	**24**	**35**	**20**	**17**	**2**	**1**	**40**
PERCENT	**25**	**93**	**60**	**88**	**50**	**43**	**5**	**3**	**100**

* Mandatory reporting period

** **Evaluation criteria**: the following information was complete in the department's records:

Number: Number of reported cases of encephalitis with complete testing for WNV, EEE, SLE, and LaCrosse

Complete history: On geographic location, travel history, and out door exposure history

GIS reading: On location of household case

Home visit: Completed for patient and family education

Reporting Criteria: Time between date of symptom onset to date reported to LHD

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood.

**Pocahontas did not submit a questionnaire for assessments.

Table 12
Q9E. Number of non-typhoidal *Salmonella* cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria					Reporting Criteria					Total Cases
	Number	Demo Info	High risk Occup	AB Susc	Invest	1 wk*	1-2wk	3-4wk	>4wk	Unk	
Barbour	2	2	2	2	0	1	1	0	0	0	2
Berkeley	5	12	7	6	3	2	4	0	3	4	13
Boone											0
Braxton	1	1	1	1	1	0	0	1	0	0	1
Brooke		3	2	0	0	0	3	0	0	0	3
Cabell-Huntington	3	5	5	0	0	3	1	1	0	0	5
Clay											0
Doddridge											0
Fayette	4	5	4	5	4	0	3	1	1	0	5
Gilmer											0
Grafton-Taylor											0
Grant	1	1	1	1	1	1	0	0	0	0	1
Greenbrier		1	1	1		1	0	0	0	0	1
Hampshire	2	3	3	2	2	0	1	0	2	0	3
Hancock	1	1	1	1	0	0	0	0	1	0	1
Hardy	1	1	1	1	0	0	0	0	0	1	1
Harrison	5	5	3	4	0	1	2	1	1	0	5
Jackson	1	1	1	1	1	1	0	0	0	0	1
Jefferson	4	8	7	8	7	3	5	0	0	0	8
Kanawha	17	17	17	15	2	13	2	1	1	0	17
Lewis											0
Lincoln	1	1	1	1	1	1	0	0	0	0	1
Logan	4	4	4	3	4	0	2	1	1	0	4
McDowell	1	1		1		1	0	0	0	0	1
Marion	4	0	3	2	0	2	2	0	0	0	4
Marshall	3	3	3	3	0	2	0	0	0	1	3
Mason	1	1	1	1	0	0	1	0	0	1	2
Mercer	7	6	7	2	0	5	0	1	1	0	7
Mid-Ohio Valley*	3	0	4	1	1	0	0	3	0	1	4
Mineral											0
Mingo											0
Monongalia											0
Monroe	2	2	2		2	0	1	0	0	1	2
Morgan	1	1				1	0	0	0	0	1
Nicholas											0
Ohio	6	6	6	6	6	4	1	1	0	0	6
Pendleton											0
Pocahontas**											0
Preston	1	1	1	1	1	0	1	0	0	0	1

Table 12

Q9E. Number of non-typhoidal *Salmonella* cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria					Reporting Criteria					Total Cases
	Number	Demo Info	High risk Occup	AB Susc	Invest	1 wk*	1-2wk	3-4wk	>4wk	Unk	
Putnam	3	3	3	2	2	0	2	0	0	1	3
Raleigh	7	9	9	9	9	1	5	3	0	0	9
Randolph	4	0	4	0	3	0	3	1	0	1	5
Summers	2	2	2	2	0	1	1	0	0	0	2
Tucker	1	1	1	1	0	0	1	0	0	0	1
Tyler											0
Upshur											0
Wayne											0
Webster											0
Wetzel											0
Wyoming											0
TOTAL	**98**	**107**	**107**	**83**	**50**	**44**	**42**	**15**	**11**	**11**	**123**
PERCENT	**80**	**87**	**87**	**67**	**41**	**36**	**34**	**12**	**9**	**9**	**100**

* Mandatory reporting period

** **Evaluation criteria**: the following information was complete in the department's records:

Number: confirmed cases with known non-typhoidal salmonella serology

Demo. Info: Complete demographic information

High risk occup.: Complete information on high risk occupations

AB Susc.: Antibiotic susceptibility profile

Invest: Complete risk factor investigation including a 3-day food history

Reporting Criteria: Time between date of symptom onset to date reported to LHD

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

**Pocahontas did not submit a questionnaire for assessments.

Table 13
Q9F. Number of *Campylobacter* enteritis cases reported to LHD by evaluation and reporting criteria**

	Evaluation Criteria					Reporting Criteria					
LHD	Number	PFGE	Demo Info	High risk Occup	Invest	1 wk*	1-2wk	3-4wk	>4wk	Unk	Total Cases
Barbour											0
Berkeley	5	0	5	4	1	0	2	1	0	2	5
Boone	1	0	1	1	1	0	1	0	0	0	1
Braxton	1	0	1	1	1	1	0	0	0	0	1
Brooke											0
Cabell-Huntington	3	0	3	3	2	2	0	0	1	0	3
Clay	3	0	3	3		1	0	0	2	0	3
Doddridge											0
Fayette	1	0	1	1	1	0	0	0	1	0	1
Gilmer											0
Grafton-Taylor											0
Grant	2	0	2	1	2	1	1	0	0	0	2
Greenbrier	2	0	2	1	2	1	1	0	0	0	2
Hampshire	3	0	3	3	1	1	2	0	0	0	3
Hancock											0
Hardy	8	0	8	2	1	3	3	2	0	0	8
Harrison	2	0	2	1	1	2	0	0	0	0	2
Jackson											0
Jefferson	5	3	5	5	5	0	4	0	1	0	5
Kanawha	1	0	1	1		1	0	0	0	0	1
Lewis											0
Lincoln	1	0	1	1	1	1	0	0	0	0	1
Logan	5	0	5	4	4	1	2	1	1	0	5
McDowell											0
Marion	1	0	0	0	0	0	1	0	0	0	1
Marshall	2	0	2	2	0	0	2	0	0	0	2
Mason	2	0	2	0	0	1	0	0	1	0	2
Mercer	7	0	7	7	4	6	0	1	0	0	7
Mid-Ohio Valley*	1	0	1	1	1	1	0	0	0	2	3
Mineral											0
Mingo											0
Monongalia											0
Monroe	4	0	4	4	4	2	1	1	0	0	4
Morgan											0
Nicholas	2	0	2	2	0	1	1	0	0	0	2
Ohio	6	0	6	5	4	4	1	1	0	0	6
Pendleton	1	0	1	1	0	0	1	0	0	0	1
Pocahontas**											0

Table 13
Q9F. Number of *Campylobacter* enteritis cases reported to LHD by evaluation and reporting criteria**

	Evaluation Criteria					Reporting Criteria					
LHD	**Number**	**PFGE**	**Demo Info**	**High risk Occup**	**Invest**	**1 wk***	**1-2wk**	**3-4wk**	**>4wk**	**Unk**	**Total Cases**
Preston	1	0	1	1	1	0	1	0	0	0	1
Putnam											0
Raleigh	1	0	1	1	0	1	0	0	0	0	1
Randolph											0
Summers											0
Tucker											0
Upshur						0	0	0	1	0	1
Wayne											0
Webster											0
Wetzel/Tyler											0
Wyoming											0
TOTAL	**71**	**3**	**70**	**56**	**37**	**31**	**24**	**7**	**8**	**4**	**74**
PERCENT	**96**	**4**	**95**	**76**	**50**	**42**	**32**	**9**	**11**	**5**	**100**

* Mandatory reporting period

** **Evaluation criteria**: the following information was complete in the department's records:

Number: Number of confirmed cases with known Campylobacteriosis

PFGE: Of cases with isolates that had PFGE

Demo info.: Complete demographic information

High risk occup.: Complete information on high risk occupations

Invest.: Complete risk factor investigation including a food history

Reporting Criteria: Time between date of symptom onset to date reported to LHD

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

**Pocahontas did not submit a questionnaire for assessments.

Table 14

Q9G. Number *E. coli* O157:H7 cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria				Reporting Criteria				Total Cases
	Demo Info	High risk Occup	OLS/ PFGE	Invest	<24 hours*	1-7 days	8-14 days	>14 days	
Barbour									0
Berkeley	2	2	0	2	0	0	1	0	2
Boone									0
Braxton									0
Brooke									0
Cabell-Huntington	2	1	1	0	0	2	0	0	2
Clay									0
Doddridge									0
Fayette									0
Gilmer									0
Grafton-Taylor									0
Grant									0
Greenbrier									0
Hampshire									0
Hancock									0
Hardy									0
Harrison									0
Jackson									0
Jefferson									0
Kanawha									0
Lewis									0
Lincoln									0
Logan									0
McDowell	1	0	1	1	0	0	0	1	1
Marion									0
Marshall									0
Mason									0
Mercer									0
Mid-Ohio Valley*	2	2	2	2	0	0	0	2	2
Mineral									0
Mingo									0
Monongalia									0
Monroe									0
Morgan									0
Nicholas									0
Ohio	2	2	2	2	0	2	0	0	2
Pendleton									0
Pocahontas**									0
Preston									0

Table 14

Q9G. Number *E. coli* O157:H7 cases reported to LHD by evaluation and reporting criteria**

LHD	Evaluation Criteria				Reporting Criteria				Total Cases
	Demo Info	High risk Occup	OLS/ PFGE	Invest	<24 hours*	1-7 days	8-14 days	>14 days	
Putnam									0
Raleigh									0
Randolph									0
Summers									0
Tucker									0
Tyler									0
Upshur									0
Wayne									0
Webster									0
Wetzel									0
Wyoming									0
TOTAL	**9**	**7**	**6**	**7**	**0**	**4**	**1**	**3**	**9**
PERCENT	**100**	**78**	**67**	**78**	**0**	**44**	**11**	**33**	**100**

* Mandatory reporting period

** **Evaluation criteria**: the following information was complete in the department's records:

Demo. Info.: Complete demographic information

High risk occup.: Complete information on high risk occupations

OLS/PFGE: OLS confirmation and complete PFGE

Invest.: Complete risk factor investigation including a 2 to 8 day food history

Reporting Criteria: Time between date of symptom onset to date reported to LHD

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

** Pocahontas did not submit a questionnaire for assessments.

Table 15
Q10A. Total number of cases of invasive meningococcal disease confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD by County	Blood			CSF			Other		
	Total Reported.	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases
Barbour	0	0	1	0	0	0	0	0	0
Berkeley	2	100	2	1	100	1	0	0	0
Boone	1	100	1	0	0	0	0	0	0
Braxton									0
Brooke	0	0	0	0	0	0	0	0	0
Cabell-Huntington	0	0	0	1	100	1	0	0	0
Clay	0	0	0	0	0	0	0	0	0
Doddridge									0
Fayette	0	0	0	0	0	0	0	0	0
Gilmer	0	0	0	0	0	0	0	0	0
Grafton-Taylor									0
Grant	0	0	0	0	0	0	0	0	0
Greenbrier	0	0	0	0	0	0	0	0	0
Hampshire									0
Hancock	1	100	1	3	100	3	0	0	0
Hardy									0
Harrison									0
Jackson	0	0	0	0	0	0	0	0	0
Jefferson									0
Kanawha	1	100	1	0	0	0	0	0	0
Lewis									0
Lincoln	0	0	0	1	100	1	0	0	0
Logan	0	0	0	1	100	1	0	0	0
McDowell									0
Marion									0
Marshall	1	100	1	1	100	1	0	0	0
Mason									0
Mercer									0
Mid-Ohio Valley*	0	0	0	0	0	0	0	0	0
Mineral									0
Mingo	0	0	0	0	0	0	0	0	0
Monongalia									0
Monroe	0	0	0	2	100	2	0	0	0
Morgan									0
Nicholas									0
Ohio	0	0	0	1	100	1	0	0	0
Pendleton									0

Table 15

Q10A. Total number of cases of invasive meningococcal disease confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD by County	Blood			CSF			Other		
	Total Reported.	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases
Pocahontas									0
Preston									0
Putnam	0	0	0	0	0	0	0	0	0
Raleigh									0
Randolph	0	0	0	0	0	0	0	0	0
Summers									0
Tucker									0
Tyler									0
Upshur									0
Wayne	0	0	0	0	0	0	0		0
Webster									0
Wetzel									0
Wyoming									0
TOTAL	**6**	**86**	**7**	**11**	**100**	**11**	**0**	**0**	**0**

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

**Pocahontas did not submit a questionnaire for assessments .

Table 16
Q10B. Total number of cases of Invasive group A *Streptococcus* confirmed by laboratories that were reported to LHD by sterile site isolate

LHD by County	Blood			CSF			Other		
	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total cases
Barbour	0	0	0	0	0	1	0	0	0
Berkeley	2	100	2	0	0	0	0	0	0
Boone									
Braxton									
Brooke	0	0	0	0	0	0	0	0	0
Cabell-Huntington	5	83	6	0	0	0	0	0	0
Clay	1	100	1	0	0	0	1	100	1
Doddridge									
Fayette	1	100	1	0	0	0	0	0	0
Gilmer	1	100	1	0	0	0	0	0	0
Grafton-Taylor									
Grant	0	0	0	0	0	0	0	0	0
Greenbrier	0	0	0	0	0	0	0	0	0
Hampshire									
Hancock	0	0	1	0	0	0	1	100	1
Hardy	1	100	1	0	0	0	0	0	0
Harrison									
Jackson	0	0	0	0	0	0	0	0	0
Jefferson									
Kanawha	10	100	10	0	0	0	0	0	0
Lewis									
Lincoln	0	0	0	0	0	0	0	0	0
Logan	0	0	0	0	0	0	0	0	0
McDowell	0	0	1	0	0	0	0	0	2
Marion	3	60	5	0	0	0	0	0	0
Marshall	1	100	1	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0
Mercer	3	100	3	0	0	0	0	0	0
Mid-Ohio Valley*									
Mineral									
Mingo	0	0	0	0	0	0	0	0	0
Monongalia	1	33	3	0	0	0	0	0	0
Monroe	1	100	1	0	0	0	0	0	0
Morgan									
Nicholas									
Ohio	1	100	1	0	0	0	0	0	0
Pendleton									
Pocahontas**									
Preston	0	0	1	0	0	0	0	0	0

Table 16

Q10B. Total number of cases of Invasive group A *Streptococcus* confirmed by laboratories that were reported to LHD by sterile site isolate

LHD by County	Blood			CSF			Other		
	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total cases
Putnam	1	100	1	0	0	0	0	0	0
Raleigh									
Randolph	0	0	0	0	0	0	0	0	0
Summers									
Tucker	0	0	0	0	0	0	0	0	0
Tyler									
Upshur									
Wayne	1	100	1	0	0	0	0	0	0
Webster									
Wetzel									
Wyoming									
TOTAL	**33**	**80**	**41**	**1**	**50**	**2**	**1**	**25**	**4**

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

**Pocahontas did not submit a questionnaire for assessments .

Table 17
Q10C.Total number of cases of invasive *Streptococcus pneumoniae* confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD by County	Blood			CSF			Other		
	Total Reported	% Reported	Total cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total cases
Barbour	0	0	3	0	0	0	0	0	0
Berkeley	7	100	7	1	100	1	1	100	1
Boone	1	20	5	0	0	0	0	0	0
Braxton	0	0	1	0	0	1	0	0	0
Brooke	2	40	5	0	0	0	0	0	0
Cabell-Huntington	2	10	21	2	100	2	0	0	1
Clay	0	0	1	0	0	0	0	0	0
Doddridge									
Fayette	7	78	9	1	100	1	0	0	0
Gilmer	0	0	0	0	0	0	0	0	0
Grafton-Taylor									
Grant	0	0	0	0	0	0	0	0	0
Greenbrier	0	0	0	1	100	1	0	0	0
Hampshire									
Hancock	4	50	8	0	0	0	0	0	0
Hardy	1	100	1	0	0	0	0	0	0
Harrison	1	14	7	0	0	0	0	0	0
Jackson	1	20	5	0	0	0	0	0	0
Jefferson									
Kanawha	19	100	19	1	100	1	3	100	3
Lewis									
Lincoln	0	0	0	0	0	0	0	0	0
Logan	11	92	12	0	0	0	0	0	0
McDowell	0	0	2	0	0	0	0	0	0
Marion	15	88	17	0	0	0	0	0	0
Marshall	0	0	2	0	0	0	0	0	0
Mason	0	0	5	0	0	0	0	0	0
Mercer	4	100	4	0	0	0	0	0	0
Mid-Ohio Valley*									
Mineral									
Mingo									
Monongalia	0	0	4	0	0	0	0	0	0
Monroe	1	100	1	0	0	0	0	0	0
Morgan									
Nicholas	1	100	1	0	0	0	0	0	0
Ohio	3	100	3	0	0	0	0	0	0
Pendleton									
Pocahontas**									

Table 17
Q10C.Total number of cases of invasive *Streptococcus pneumoniae* confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD by County	Blood			CSF			Other		
	Total Reported	% Reported	Total cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total cases
Preston									
Putnam	3	60	5	0	0	0	0	0	0
Raleigh	2	25	8	1	100	1	0	0	0
Randolph	2	100	2	1	100	1	0	0	0
Summers									
Tucker	0	0	0	0	0	0	0	0	0
Tyler									
Upshur	3	100	3	0	0	0	0	0	0
Wayne	6	100	6	0	0	0	0	0	0
Webster									
Wetzel									
Wyoming	0	0	0	0	0	2	0	0	0
TOTAL	**96**	**57**	**167**	**8**	**73**	**11**	**4**	**80**	**5**

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
**Pocahontas did not submit a questionnaire for assessments.

Table 18
Q10D. Total number of cases of invasive *Haemophilus influenzae* confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD	Blood			CSF			Other		
	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases
Barbour	1	50	2	0	0	0	0	0	1
Berkeley									
Boone									
Braxton									
Brooke	0	0	0	0	0	0	0	0	0
Cabell-Huntington	2	25	8	0	0	0	0	0	0
Clay	0	0	0	0	0	0	0	0	0
Doddridge									
Fayette	0	0	0	0	0	0	0	0	0
Gilmer									
Grafton-Taylor									
Grant	0	0	0	0	0	0	0	0	0
Greenbrier									
Hampshire									
Hancock									
Hardy									
Harrison	1	50	2	0	0	0	0	0	0
Jackson	0	0	4	0	0	0	0	0	0
Jefferson									
Kanawha	1	100	1	0	0	0	1	100	1
Lewis									
Lincoln	0	0	0	0	0	0	0	0	0
Logan									
McDowell	0	0	0	0	0	0	0	0	1
Marion	0	0	0	0	0	0	1	100	1
Marshall	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0
Mercer									
Mid-Ohio Valley*									
Mineral									
Mingo									
Monongalia	0	0	2	0	0	0	0	0	0
Monroe									
Morgan									
Nicholas	1	100	1	0	0	0	0	0	0
Ohio	1	100	1	0	0	0	0	0	0
Pendleton									
Pocahontas**									

Table 18

Q10D. Total number of cases of invasive *Haemophilus influenzae* confirmed by laboratories that were reported to LHD by sterile site of isolate

LHD	Blood			CSF			Other		
	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases	Total Reported	% Reported	Total Cases
Preston									
Putnam	0	0	0	0	0	0	0	0	0
Raleigh									
Randolph	0	0	0	0	0	0	0	0	0
Summers									
Tucker	0	0	0	0	0	0	0	0	0
Tyler									
Upshur	0	0	0	0	0	0	1	100	1
Wayne	0	0	0	0	0	0	0	0	0
Webster									
Wetzel									
Wyoming	0	0	0	0	0	2	0	0	0
TOTALS	**7**	**33**	**21**	**0**	**0**	**2**	**3**	**60**	**5**

* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

** Pocahontas did not submit a questionnaire for assessments.

Table 19
Q12.Does your departments provide training/education to providers on Infections/syndromes that require less than 24 hour notification to the LHD (Q12A), Epidemiology (Q12B), surveillance (Q12C), interpretation of clinical and laboratory information (Q12D), and disease reporting requirements (Q12E)?

LHD by County	12A Yes/No	12B Yes/No	12C Yes/No	12D Yes/No	12E Yes/No
Barbour	Y	Y	Y	Y	Y
Berkeley	Y	Y	Y	Y	Y
Boone	N	N	N	N	Y
Braxton	N	N	N	N	N
Brooke	Y	Y	Y	N	Y
Cabell-Huntington	N	N	N	N	Y
Clay	N	N	N	N	N
Doddridge	Y	Y	Y	Y	Y
Fayette	N	N	N	N	Y
Gilmer	Y	Y	Y	Y	Y
Grafton-Taylor	N	N	N	N	Y
Grant	N	N	N	N	N
Greenbrier	Y	N	N	Y	Y
Hampshire	Y	N	Y	N	Y
Hancock	Y	Y	Y	Y	Y
Hardy	N	N	N	N	Y
Harrison	N	N	N	N	N
Jackson	N	N	N	N	N
Jefferson	Y	Y	Y	Y	Y
Kanawha	Y	Y	Y	Y	Y
Lewis	Y	N	N	N	Y
Lincoln	Y	Y	Y	N	Y
Logan	Y	N	N	N	Y
McDowell	N	N	N	N	Y
Marion	N	N	N	N	Y
Marshall	Y	Y	Y	Y	Y
Mason	Y	Y	Y	N	Y
Mercer	N	N	N	N	N
Mid-Ohio Valley**	N	N	N	N	N
Mineral	N	N	N	N	N
Mingo	N	N	N	N	N
Monongalia	Y	Y	Y	Y	N
Monroe	Y	N	N	N	Y
Morgan	N	N	Y	Y	Y
Nicholas	Y	Y	Y	Y	Y
Ohio	Y	N	Y	Y	Y
Pendleton	Y	Y	Y	Y	Y

Table 19
Q12.Does your departments provide training/education to providers on Infections/syndromes that require less than 24 hour notification to the LHD (Q12A), Epidemiology (Q12B), surveillance (Q12C), interpretation of clinical and laboratory information (Q12D), and disease reporting requirements (Q12E)?

LHD by County	12A Yes/No	12B Yes/No	12C Yes/No	12D Yes/No	12E Yes/No
Pocahontas***					
Preston	N	N	N	N	N
Putnam	Y	Y	Y	Y	Y
Raleigh	Y	Y	Y	Y	Y
Randolph	N	N	N	N	Y
Summers					
Tucker	Y	N	N	N	Y
Upshur	Y	Y	Y	N	Y
Wayne	Y	N	Y	N	Y
Webster					
Wetzel/Tyler	Y	N	N	N	Y
Wyoming	Y	Y	Y	N	Y
TOTAL YES	**27**	**18**	**22**	**16**	**35**
PERCENT YES*	**56**	**38**	**46**	**33**	**73**

* 48 counties participated; 48 counties used as denominator in percentage.
* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
** Pocahontas did not submit a questionnaire for assessments.

Table 20
Q14. Does staff need training in the reporting disease system to provide effective training/education to providers?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	Y
Braxton	Y
Brooke	Y
Cabell-Huntington	N
Clay	Y
Doddridge	Y
Fayette	Y
Gilmer	N
Grafton-Taylor	N
Grant	N
Greenbrier	Y
Hampshire	Y
Hancock	Y
Hardy	N
Harrison	Y
Jackson	Y
Jefferson	Y
Kanawha	N
Lewis	Y
Lincoln	N
Logan	Y
McDowell	N
Marion	Y
Marshall	Y
Mason	Y
Mercer	N
Mid-Ohio Valley**	Y
Mineral	N
Mingo	N
Monongalia	N
Monroe	Y
Morgan	Y
Nicholas	Y
Ohio	N
Pendleton	N
Pocahontas***	
Preston	Y

Table 20
Q14. Does staff need training in the reporting disease system to provide effective training/education to providers?

LHD by County	Yes/No
Putnam	N
Raleigh	Y
Randolph	Y
Summers	
Tucker	Y
Upshur	Y
Wayne	Y
Webster	
Wetzel/Tyler	N
Wyoming	Y
TOTAL YES	**30**
PERCENT YES*	**62**

* 48 counties participated; 48 counties used as denominator in percentage.
* Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
**Pocahontas did not submit a questionnaire for assessments.

Table 21
Q15. Describe type of training needed to effectively provide training/education to providers in reportable disease system

LHD by County	Type of Training*
Barbour	DIRECT SURVEILLANCE TRAINING PRESENTION AND DRILL
Berkeley	MOTIVATION & EDUCATION TECHNIQUES TO ENABLE STAFF
Boone	A NEW STAFF MEMBER-BASIC EPI TRAINING
Braxton	BASIC REPORTING. NEED UPDATE TRAINING ON SURVEILLANCE
Brooke	GROUPING OF CLUSTERS OF DISEASE-COMMUNICATION
Cabell-Huntington	
Clay	EPIDEMIOLOGY, SURVEILLANCE
Doddridge	FROM THE BASICS ON UP REGARDING BIOTERRORISM RELATED
Fayette	UPDATES ON NEW REQUIREMENTS AS NEEDED
Gilmer	
Grafton-Taylor	
Grant	NURSES X 3 SURVEILLANCE TRAINING; NEW INFORMATION
Greenbrier	STATE PROVIDE INITIAL STRESSING LEGALITIES
Hampshire	AN ANNUAL REVIEW OF LATEST LAB TESTING PROCEDURES
Hancock	DISEASE PROTOCOL, LAB INTERPRETATION, REPORTING
Hardy	
Harrison	NEW STAFF WILL NEED ALL AREAS, CURRENT RN AND SANT
Jackson	REGIONAL EPI NEEDED TO PROVIDE TRAINING TO HEALTH
Jefferson	CLASSROOM & AN UP-TO-DATE EPI PROTOCOL MANUAL
Kanawha	
Lewis	DATABASE
Lincoln	
Logan	
McDowell	
Marion	ON-SITE BY REGIONAL EPIDEMIOLOGISTS, MANUAL TRAINING
Marshall	NEED BIANNUAL UPDATES
Mason	UPDATE & NEW SURVEILLANCE PROTOCOL
Mercer	
Mid-Ohio Valley**	
Mineral	
Mingo	
Monongalia	
Monroe	A REFRESHER COURSE ON REPORTABLE DISEASES
Morgan	COMPLETE TRAINING, START TO FINISH
Nicholas	CONTINUING EDUCATION ON CHAGNES IN PUBLIC HEALTH
Ohio	WE ARE EAGER TO DO THE WORK; STAFFING IS THE PROBLEM
Pendleton	
Pocahontas***	
Preston	EPI/SURVEILLANCE/ DISEASE ID

Table 21
Q15. Describe type of training needed to effectively provide training/education to providers in reportable disease system

LHD by County	Type of Training*
Putnam	
Raleigh	TO PROVIDE EFFECTIVE TRAINING/EDUCATION TO HEALTH
Randolph	UPDATED INFORMATION IN CONSISE UNIT (NEW MANUAL)
Summers	
Tucker	REVIEW OF REPORTABLE DISEASES, EVENT AND REPORTING
Upshur	UPDATE TO REINFORCE EXISTING KNOWLEDGE
Wayne	
Webster	SEE # 12 ABOVE
Wetzel/Tyler	
Wyoming	UPDATES ON DISEASE MANUAL

* Type of training recorded verbatim from LHD entry on their questionnaire.
** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
*** Pocahontas did not submit a questionnaire for assessments.

Table 22
Q16. Under normal circumstances is there sufficient staff and resources to provide 24/7 response for surveillance of reportable diseases?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	Y
Braxton	N
Brooke	N
Cabell-Huntington	Y
Clay	Y
Doddridge	Y
Fayette	Y
Gilmer	N
Grafton-Taylor	Y
Grant	Y
Greenbrier	N
Hampshire	Y
Hancock	Y
Hardy	N
Harrison	N
Jackson	Y
Jefferson	Y
Kanawha	Y
Lewis	Y
Lincoln	Y
Logan	N
McDowell	N
Marion	Y
Marshall	N
Mason	Y
Mercer	Y
Mid-Ohio Valley**	N
Mineral	N
Mingo	Y
Monongalia	N
Monroe	Y
Morgan	N
Nicholas	N
Ohio	N
Pendleton	N
Pocahontas***	
Preston	N

Table 22
Q16. Under normal circumstances is there sufficient staff and resources to provide 24/7 response for surveillance of reportable diseases?

LHD by County	Yes/No
Putnam	N
Raleigh	Y
Randolph	N
Summers	
Tucker	N
Upshur	Y
Wayne	Y
Webster	
Wetzel/Tyler	Y
Wyoming	Y
TOTAL YES	**26**
PERCENT YES*	**54**

* 48 counties participated; 48 counties used as denominator in percentage.
** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
*** Pocahontas did not submit a questionnaire for assessments .

Table 23
Q19. Explain what health care providers and laboratorians believe can be done to increase reporting of immediately reportable diseases

LHD by County	Explanation*
Barbour	
Berkeley	NEED TO BE ABLE TO SHOW TANGIBLE BENEFITS OF REPORTING
Boone	UNSURE AT THIS TIME
Braxton	MAKE IT AS SIMPLE AS POSSIBLE WITH MINIMAL IMPACT ON STAFF
Brooke	ENFORCEMENT OF STATE LAWS THROUGH STATE DEPT OF HEALTH & PENALTIES - EDUCATION OF PHYSICIANS & THERE STATE MED ASSOC
Cabell-Huntington	
Clay	THERE ARE NO LABORATORIES IN THE COUNTY & HAVE NO IDEA WHAT THE HEALTH CARE PROVIDERS THINK IS NEEDED
Doddridge	TO ELECTRONICALLY REPORT PREFERRABLY INTEGRATED WITH THEIR BILLING SYSTEM WHEN CODING IN DIAGNOSIS
Fayette	ADDITIONAL OFFICE STAFF IN PRIVATE SETTINGS AND LABS
Gilmer	
Grafton-Taylor	
Grant	
Greenbrier	COMMUNICATION MEANS THAT IS DEDICATED TO REPORTING WITH IMMEDIACY
Hampshire	
Hancock	
Hardy	
Harrison	
Jackson	TRAINING
Jefferson	UNKNOWN
Kanawha	PRIVATE PHYSICIAN, ONE OR TWO HOSPITALS
Lewis	TRAINING, DATA LINKS, SOFTWARE
Lincoln	
Logan	ELECTRONIC REPORTING SYSTEM-STATE REGULATED AND ENFORCED
McDowell	MORE TRAINING ON REPORTABLE DISEASES
Marion	
Marshall	??????????
Mason	
Mercer	PROVIDERS IN OUR COUNTY NEED EFFECTIVE EDUCATION THAT THEY ARE REQUIRED TO REPORT DISEASES
Mid-Ohio Valley**	
Mineral	
Mingo	
Monongalia	ELECTRONIC REPORTING OF DISEASES DIRECTLY TO THE STATE, THEN STATE ASSIMILATE THAT INFORMATION TO THE LOCAL HEALTH DEPARTMENT
Monroe	
Morgan	PROVIDE TRAINING
Nicholas	CONTINUING EDUCATION, MAINTAIN REPORT WITH REPORTING SOURCES
Ohio	INCREASED SURVEILLANCE STAFF AT THE LHD TO MOVE FROM A PASSIVE TO AN ACTIVE SURVEILLANCE SYSTEM
Pendleton	

Table 23

Q19. Explain what health care providers and laboratorians believe can be done to increase reporting of immediately reportable diseases

LHD by County	Explanation*
Pocahontas***	
Preston	24/7 COVERAGE TO BE EASIER TO UNDERSTAND & ACCESS. A COMPUTER TERMINAL IN EACH OFFICE
Putnam	STRICT STATE ENFORCEMENT OF REPORTING
Raleigh	ADDITIONAL TELEPHONE LINES INTO THE HEALTH DEPARTMENT TO ENSURE A MORE RAPID ACCESSIBILITY TO LOCAL HEALTH DEPARTMENT STAFF
Randolph	HAVE NOT YET POLLED
Summers	
Tucker	WE HAVE ONLY ACUTE CARE CLINICS WHO, IF THEY OBTAIN SPECIMENS, SEND THEM TO LABS OUTSIDE JURISDICTION AREA
Upshur	EDUCATION AND TRAINING
Wayne	
Webster	
Wetzel/Tyler	ELECTRONIC REPORTING, HOSPITALS NEED 24/7 INFECTION CONTROL ACCESS
Wyoming	TRAINING

* Explanation recorded verbatim from LHD entry on their questionnaire.

** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 24
Q20. Does LHD have a plan to recruit additional staff and equipment to respond to a BT outbreak of at least 500 suspect and confirmed reportable disease cases over 2 months?

LHD by County	Yes/No
Barbour	N
Berkeley	Y
Boone	N
Braxton	N
Brooke	N
Cabell-Huntington	N
Clay	N
Doddridge	N
Fayette	N
Gilmer	N
Grafton-Taylor	N
Grant	N
Greenbrier	N
Hampshire	N
Hancock	N
Hardy	N
Harrison	N
Jackson	N
Jefferson	N
Kanawha	Y
Lewis	N
Lincoln	N
Logan	N
McDowell	N
Marion	N
Marshall	N
Mason	N
Mercer	N
Mid-Ohio Valley**	N
Mineral	N
Mingo	N
Monongalia	N
Monroe	N
Morgan	N
Nicholas	N
Ohio	Y
Pendleton	N
Pocahontas***	
Preston	N

Table 24
Q20. Does LHD have a plan to recruit additional staff and equipment to respond to a BT outbreak of at least 500 suspect and confirmed reportable disease cases over 2 months?

LHD by County	Yes/No
Putnam	N
Raleigh	N
Randolph	N
Summers	
Tucker	N
Upshur	N
Wayne	N
Webster	N
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**3**
PERCENT YES*	**6**

* 48 counties participated; 48 counties used as denominator in percentage.
** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.
*** Pocahontas did not submit a questionnaire for assessments .

Table 25

Q22. Can the department disseminate medical management information for all Category A BT agents within 1 hour to ambulatory facilities, police departments, fire departments, emergency medical service, health care providers, and hospitals?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	N
Braxton	N
Brooke	Y
Cabell-Huntington	Y
Clay	Y
Doddridge	Y
Fayette	Y
Gilmer	Y
Grafton-Taylor	
Grant	N
Greenbrier	Y
Hampshire	Y
Hancock	N
Hardy	N
Harrison	N
Jackson	Y
Jefferson	N
Kanawha	N
Lewis	Y
Lincoln	Y
Logan	N
McDowell	N
Marion	N
Marshall	N
Mason	N
Mercer	Y
Mid-Ohio Valley**	N
Mineral	N
Mingo	Y
Monongalia	N
Monroe	N
Morgan	N
Nicholas	Y
Ohio	N
Pendleton	N
Pocahontas***	
Preston	Y

Table 25

Q22. Can the department disseminate medical management information for all Category A BT agents within 1 hour to ambulatory facilities, police departments, fire departments, emergency medical service, health care providers, and hospitals?

LHD by County	Yes/No
Putnam	Y
Raleigh	N
Randolph	N
Summers	
Taylor-Grafton	N
Tucker	N
Upshur	Y
Wayne	Y
Webster	
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**20**
PERCENT YES*	**43**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Table 26
Q23.Does the department have information for FAQs on all Category A BT agents for distribution?

LHD by County	Yes/No
Barbour	Y
Berkeley	Y
Boone	Y
Braxton	N
Brooke	Y
Cabell-Huntington	N
Clay	N
Doddridge	N
Fayette	Y
Gilmer	Y
Grafton-Taylor	Y
Grant	N
Greenbrier	Y
Hampshire	N
Hancock	N
Hardy	Y
Harrison	N
Jackson	N
Jefferson	Y
Kanawha	Y
Lewis	N
Lincoln	N
Logan	N
McDowell	N
Marion	Y
Marshall	N
Mason	Y
Mercer	Y
Mid-Ohio Valley	N
Mineral	N
Mingo	N
Monongalia	N
Monroe	N
Morgan	N
Nicholas	Y
Ohio	N
Pendleton	N
Pocahontas***	
Preston	Y
Putnam	Y

Table 26

Q23.Does the department have information for FAQs on all Category A BT agents for distribution?

LHD by County	Yes/No
Raleigh	Y
Randolph	N
Summers	
Tucker	N
Upshur	Y
Wayne	N
Webster	
Wetzel/Tyler	N
Wyoming	N
TOTAL YES	**19**
PERCENT YES*	**39**

* 48 counties participated; 48 counties used as denominator in percentage.

** Mid-Ohio Valley includes the following 6 counties: Calhoun, Pleasants, Ritchie, Roane, Wirt , and Wood.

*** Pocahontas did not submit a questionnaire for assessments .

Attachment A

Supplement to CDC Emergency Preparedness and Response Inventory for Focus Area B Local Health Department Assessments

This tool is intended as a supplement to the guidance to Local Health Departments for assessments that are required for Focus Area B of the BT grant proposal in the areas of surveillance and epidemiologic response.

Routinely assess timeliness and completeness of reportable disease system

1. Does the department have a designated contact person available 24/7 for health care providers to report unusual infections/syndromes? □ Yes □ No

   If yes,

   2. Has the department notified all health care providers and laboratories of their emergency contact persons and telephone numbers? □ Yes □ No

   3. How long ago were all providers and laboratories last notified of the department's emergency contact persons and telephone numbers?
      □ Never
      □ < 1 month
      □ 1-6 months
      □ >12 months

4. Do the department's contact persons know who to contact during a bioterrorism event or public health emergency
   b. At the Bureau of Public Health's Infectious Disease Epidemiology Program? □ Yes □ No
   b. At the Bureau for Public Health's Office of Laboratory Services (State Lab)? □ Yes □ No
   c. At the FBI? □ Yes □ No

5. Does the department have systems in place to periodically evaluate the timeliness and completeness of reporting by health care providers and laboratorians? □ Yes □ No
   If no,
   6. What additional staff and resources would be needed to periodically evaluate the level of reporting?

      Types of positions needed: _____, _____, _____

      Number of positions needed: ___ ___

      Other resources: _____

      Funding needed: $___ ___ ___, ___ ___ ___

7. In the past 12 months has the department evaluated its reportable disease surveillance system? □ Yes □ No

If yes,

8. In the past 12 months has the department conducted a table top or functional exercise to evaluate its surveillance system for BT events or public health emergencies? □ Yes □ No

9. During 2001, tally all cases of the following diseases by the evaluation criteria in their respective protocols (protocols developed by IDEP):

a. Invasive Streptococcus pneumoniae and drug resistant Streptococcus Pneumoniae

Total number cases reported in 2001 ____

Determine the number (% of total) of 2001 cases that the following information was recorded in the department's records:

Type of infection	____ (_ _%)
Specimen source	____ (_ _%)
Vaccine history	____ (_ _%)
Underlying medical conditions	____ (_ _%)
Antibiotic sensitivity profile	____ (_ _%)
Known capsular type	____ (_ _%)

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

Within 1 week.	____ (_ _%)
1-2 weeks	____ (_ _%)
3-4 weeks	____ (_ _%)
4 weeks or more	____ (_ _%)

b. Influenza

Number (%) of MMWR weeks for which reported totals of ILI are available at the county level during 2001 ____ (_ _%)

Was virologic surveillance conducted in the county during the 2001-2002 season? □ Yes □ No

c. West Nile Virus

Number of dead birds submitted for testing in 2001 ____

Number (%) of weeks May to October that counties submitted dead bird reports to IDEP during 2001 ____ (_ _%)

Total number of human 2001 cases of encephalitis in May to October, 2001 ____

Number (%) of human cases with a diagnosis of encephalitis that were tested for EEE, SLE, LAC, and WNV May to October, 2001 ____ (_ _%)

d. LaCrosse Encephalitis

Total number cases reported in 2001 ____

Number (%) of reported human 2001 cases of encephalitis with complete testing for West Nile virus, EEE, SLE, and LaCrosse encephalitis ____ (_ _%)

Determine the number (% of total) of 2001 cases that the following information was recorded in the department's records:

- Complete history on geographic location, travel history, and outdoor exposure history ____ (_ _%)
- GIS reading on location of household of case ____ (_ _%)
- Home visit completed for patient and family education ____ (_ _%)

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

- Within 1 week ____ (_ _%)
- 1-2 weeks ____ (_ _%)
- 3-4 weeks ____ (_ _%)
- 4 weeks or more ____ (_ _%)

e. Non-typhoidal salmonella

Total number cases reported in 2001 ____

Number (%) of confirmed cases with known non-typhoidal salmonella serotype ____ (_ _%)

Determine the number (% of total) of 2001 confirmed cases that the following information was recorded in the department's records:

- Complete demographic information ____ (_ _%)
- Complete information on high-risk occupations ____ (_ _%)
- Antibiotic susceptibility profile ____ (_ _%)
- Complete risk factor investigation including a 3-day food history ____ (_ _%)

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

- Within 1 week ____ (_ _%)
- 1-2 weeks ____ (_ _%)
- 3-4 weeks ____ (_ _%)
- 4 weeks or more ____ (_ _%)

f. Campylobacter enteritis

Total number cases reported in 2001 ____

Number (%) of confirmed cases with known Campylobacteriosis. ____ (_ _%)

Number (%) 2001 cases with isolates that have had PFGE ____ (_ _%)

Determine the number (% of total) of 2001 confirmed cases that the

following information was recorded in the department's records:

Complete demographic information	____ (_ _%)
Complete information on high-risk occupations	____ (_ _%)
Complete risk factor investigation including a food history	____ (_ _%)

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

Within 1 week .	____ (_ _%)
1-2 weeks	____ (_ _%)
3-4 weeks	____ (_ _%)
4 weeks or more	____ (_ _%)

g. E. coli O157:H7

Total number of 2001 cases ____

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

Complete demographic information	____ (_ _%)
Complete information on high-risk occupations	____ (_ _%)
OLS confirmation and complete PFGE	____ (_ _%)
Complete risk factor investigation including a two- to eight-day	fo

Determine the number (% total) of 2001 cases by time between date of onset of clinical symptoms to date provider or lab reported case to LHD:

Within 24 hour	____ (_ _%)
1-7 days	____ (_ _%)
8-14 days	____ (_ _%)
14 days or more	____ (_ _%)

10. Tally the number (No.) and percent (%) of the total number of all 2001 cases by sterile site that were reported and unreported to the LHD for the following diseases (See instructions for recommended data collection procedure):

Disease	Sterile site	Total Reported to LHD No. % total	Total not reported to LHD No. % total	Total number of cases
Invasive meningococcal disease	Blood CSF Other Total			
Invasive group A Streptococcus	Blood CSF Other Total			
Invasive Streptococcus pneumoniae	Blood CSF Other Total			
Invasive Haemophilus influenzae	Blood CSF Other Total			

Instructions: Consider asking your regional epidemiologist for help. Arrange a visit with each hospital that serves your county. Ask the laboratory director and I.C. nurse to pull all records of patients based on laboratory records with evidence of blood, CSF and other sterile site isolates of meningococcus, invasive group A Streptococcus, invasive Streptococcus pneumoniae, and Haemophilus influenzae. You will need to record the name and place of residence of each patient. Exclude non-WV residents. Count each patient in your jurisdiction only once as some patients will have more than one culture. Separate the patients with each of the above diseases by sterile site tested (e.g., blood, CSF or other), and then separate these groups of cases into those that have been reported to your department and those that have not been reported. Count the number of cases in each subgroup and complete the table..

11. For all 2001 cases of diseases in question 10, tally the number (%) of health care providers and laboratories who have reported any of these diseases in your county:
    Total number of providers ____
    Total number of laboratories ____
    Total number (% of total providers) of providers who reported diseases ____ (_ _%)
    Total number (% of laboratories) of laboratories who reported diseases ____ (_ _%)

12. Does your department provide training/education to providers on
    a. Infections/syndromes that require less than 24 hour

notification of the local health department? ☐ Yes ☐ No

b. Epidemiology? ☐ Yes ☐ No
c. Surveillance? ☐ Yes ☐ No
d. Interpretation of clinical and laboratory information? ☐ Yes ☐ No
e. Disease reporting requirements? ☐ Yes ☐ No

13. What resources (staff, equipment etc) do you need to adequately provide training and education to providers on the reportable disease system?

Types of positions needed: _____, _____, _____

Number of positions needed: ___ ___

Other resources: _____

Funding needed: $___ ___ ___, ___ ___ ___

14. Does your staff need training in the reportable disease system in order to effectively provide training/education to providers? ☐ Yes ☐ No

If yes,

15. Describe type of training that is needed: _____

_____

16. Under normal circumstances, do you have sufficient staff and resources to provide 24/7 response for surveillance (notification) of reportable diseases? ☐ Yes ☐ No

If No,

17. What additional resources are needed?

    Types of positions needed: _____, _____, _____

    Number of positions needed: ___ ___

    Other resources: _____

    Funding needed: $___ ___ ___, ___ ___ ___

18. Under unusual circumstances in a moderate outbreak, or a time of alert to a bioterrorism event or an imminent pandemic influenza outbreak, what resources do you have or would you need in the local health department or community to do enhanced surveillance (for example, to put selected diseases under surveillance on a daily basis requiring daily contact with all ERs, laboratories, and health providers)?

    Types of positions needed: _____, _____, _____

    Number of positions needed: ___ ___

    Other resources: _____

    Funding needed: $___ ___ ___, ___ ___ ___

19. Explain what health care providers and laboratorians in your county believe can be done to increase reporting of immediately reportable diseases?

    _____

    _____

II. Assess adequacy of state and local response to outbreaks of reportable diseases

20. Does the department have a plan to recruit additional staff and equipment to respond to a BT outbreak of at least 500 suspected and confirmed immediately reportable disease cases over 2 months?
    - □ Yes
    - □ No

21. How many staff does the department have at its department and available to the department in other organizations in its county to conduct the epidemiologic response to an outbreak of 500 cases over 2 months:

    Total number personnel trained in epidemiologic investigation needed to respond _____

Number of personnel trained in epidemiologic investigation within the department _____

Number of personnel trained in epidemiologic investigation within local organizations available for surge capacity _____

22. Can the department disseminate medical management information for all Category A BT agents (anthrax, smallpox, tularemia, botulism, plague, and viral hemorrhagic fevers) within 1 hour to the following facilities/personnel in its jurisdiction: ambulatory facilities, police department, fire department, emergency medical service, health care providers, hospitals?
    - ☐ Yes
    - ☐ No

If not,

23. Does the department have information for FAQS on all Category A BT agents that it can distribute?
    - ☐ Yes
    - ☐ No
24. What further information or resources does the department need to meet this objective? Explain _____