

# **OUTBREAK RESPONSE PLAN STATE OF WEST VIRGINIA**

## **Introduction**

The West Virginia HIV/AIDS/STD Program is committed to the monitoring, detection, and control of chlamydia, gonorrhea, syphilis, hepatitis B, hepatitis C, and HIV/AIDS. The plan outlined in this document specifically focuses upon early syphilis but is applicable to all of the aforementioned sexually transmitted infectious diseases. Each of these infectious diseases has unique differences; however, this plan addresses the team's responsibilities to all, adapting to each disease accordingly. Although West Virginia is considered a low incidence state for all the sexually transmitted diseases listed previously, (excluding hepatitis B), the need for an Outbreak Response Plan can not be dismissed. The HIV/AIDS/STD Program realizes that careful examination and response must be of high priority to maintain that low incidence rate. Constant monitoring of local data provides for ongoing assessment which in turn allows for proactive measures, investigation, and, ultimately, control of STDs. This plan provides relevant information for all essential areas of an epidemiologic investigation – analysis of data, definition of and recognition of an outbreak, and the outbreak investigation itself. Maintaining standards of surveillance, enforcing the state's laws for reporting infectious diseases, and investigating reports of infectious diseases apply to all communicable disease conditions reported in West Virginia. The Program's team consists of physicians, nurses, disease intervention specialists (DIS), epidemiologists, and public health care personnel who have demonstrated knowledge, judgment, and performance in working with sexually transmitted infectious diseases. The goal of this team's plan is to successfully prevent and control the transmission of syphilis within the state during an outbreak.

## **Guidelines: Syphilis Outbreak**

An "outbreak" is defined by the following criteria: the disease level exceeds formerly managed numbers for a given community. Recognition of an outbreak is reliant upon a thorough, comprehensive understanding of the community. Collaboration with the local health community and the HIV/AIDS/STD Program staff is essential for the success of containment of an outbreak. Data assessing relevant components such as the community's population profile and observable trends, the disease incidence rate, the availability of community and Program resources and intervention capacity, and the rate of disease transmission must be considered prior to the initiation of the outbreak response so that an appropriate response specific to each community can be determined.

A declaration of an "outbreak" will result only when all the data assessing relevant components have been reviewed by the State Epidemiologist, the HIV/AIDS/STD Program's Medical Director, and the DIS Supervisor. Once the components have been reviewed and evidence supports the definition of an outbreak, the core individuals have the capacity to declare the occurrence of an outbreak and initiate the outbreak investigation.

## **Threshold Response Levels**

A threshold level is the number of cases in a given timeframe and is an important statistic when assessing the components outlined previously. The threshold level cannot be the sole factor in declaring an outbreak; however, the level of threshold can and must be an essential factor in determining the response.

*Review of Trends* The ability to determine a case number increase in a given area such as a community, a city, a county, or a geographical region as defined by the Program, is dependent upon accurate reporting and entry into the STD\*MIS electronic system. Frequent communication among the Program's Medical Director, DIS Supervisor, the DIS staff, Data Manager, the Data Entry Specialist, and the Epidemiologist is essential to determine new morbidity, and once identified, competently entered into the system as quickly as possible. Morbidity rates must be continually monitored to ensure accuracy and availability of data for review and appropriate response. Since data management is crucial to the success of the Program's response to detection and control of STDs, a schedule for review is essential and will occur on a weekly basis. Should an additional STD Surveillance Team member be funded through federal funding opportunities (a "floating" DIS), the schedule for review of trends will occur more frequently.

Level 1 Examination of morbidity by HIV/AIDS/STD Program's Medical Director, DIS Supervisor, the DIS assigned to the region, the Data Manager, the Data Entry Specialist, and the Epidemiologist.

Level 1 is defined as an increase of *no more than two* early syphilis cases per quarter in any defined area, i.e. a community, a city, a county, or a geographical region as defined by the Program. Early syphilis = primary, secondary, or early latent (less than one year). (The Level 1 threshold for chlamydia is 180 cases per 100,000 population; gonorrhea is 55 cases per 100,000 population; and hepatitis B is 83 cases per 100,000 population.)

Level 2 Examination of morbidity by HIV/AIDS/STD Program's Medical Director, DIS Supervisor, the DIS assigned to the region, the Data Manager, the Epidemiologist, and the State Epidemiologist.

Level 2 is defined as an increase of *no more than three* early syphilis cases per quarter in any area. The State Epidemiologist and the Program's Medical Director will thoroughly review and assess the new cases to determine if the county health department is able to effectively manage the increase in case number. If it is determined that the county health department can manage the increase in case numbers, and if no new cases are discovered as a result of investigation, the HIV/AIDS/STD Program staff will discontinue involvement except to continue to monitor the area closely to ensure additional cases will be investigated. (The Level 2 threshold for chlamydia is 190 cases per 100,000 population; gonorrhea is 60 cases per 100,000 population; and hepatitis B is 90 cases per 100,000 population.)

Level 3 Examination of morbidity by the HIV/AIDS/STD Program’s Medical Director, DIS Supervisor, and the State Epidemiologist in consultation with the STD CDC Project Officer and the County Health Officer.

Level 3 is defined as an increase of *four, but no more than nine* early syphilis cases per quarter in any area. The State Epidemiologist and the Program’s Medical Director will thoroughly review and assess the new cases to determine if the county health department is able to effectively manage the increase in case number. After consulting with the West Virginia State Health Officer, the County Health Officer, and the STD CDC Project Officer, a decision will be made whether to release a West Virginia Health Advisory and to initiate one of the following actions:

A. Declaration of a locally controlled “low level” outbreak.

This declaration occurs when it is determined that the county health department has the necessary resources and experience to effectively investigate the outbreak without HIV/AIDS/STD Program intervention. First, a Pre-Outbreak response checklist (data assessing components) by the DIS Supervisor and the DIS assigned to the area must be reviewed and documented. When the checklist is completed, the Program’s Medical Director will be apprised. Daily monitoring of all the cases and the case investigations via STD\*MIS is essential and will be supervised by the DIS Supervisor and the Medical Director. The Medical Director and the DIS Supervisor will visit the county health department at least once per week to monitor the progress of the investigations and the degree to which the county health department is managing the outbreak. The DIS assigned to the area will visit the county health department daily, and if necessary, additional DIS staff will be assigned to assist with the investigations. The monitoring continues as long as the “low level” status is in effect. If, following a three-month period, the case numbers are reduced, the outbreak will return to a level two response. If the case numbers continue to increase, a level four response will be declared.

B. Declaration of an outbreak.

If, at any time, the county health department cannot effectively manage the increase in case number, an “outbreak” will be declared and will be managed by the HIV/AIDS/STD Program in collaboration with the county health department. (The Level 3 threshold for chlamydia is 200 cases per 100,000 population; gonorrhea is 65 cases per 100,000 population; and hepatitis B is 96 cases per 100,000 population.)

Level 4 Examination of morbidity by the HIV/AIDS/STD Program’s Medical Director, DIS Supervisor, State Health Officer, and the State Epidemiologist in consultation with the STD CDC Project Officer and the County Health Officer.

Level 4 is defined as an increase of *ten or more* early syphilis cases per quarter in any area. With this increase in case numbers, a thorough review/analysis by the HIV/AIDS/ STD Program’s Medical Director, DIS Supervisor, and the State Epidemiologist is required. Once a thorough examination/analysis has been completed, and it is determined that the county health department cannot effectively manage the increase in case number, an “outbreak alert” will be declared, a

West Virginia Health Alert will be issued, and the West Virginia STD Outbreak Response Team will be mobilized. The Outbreak Response Team will provide assistance, through direct staff involvement (including the floating DIS), to the area under the supervision of the Program's Medical Director. (The Level 4 threshold for chlamydia is 210 cases per 100,000 population; gonorrhea is 70 cases per 100,000 population; and hepatitis B is 102 cases per 100,000 population.)

Re-evaluation will occur after a one-month period, or sooner if indicated and two options will be considered.

Option # 1: If case numbers decrease or remain the same, continue direct staff involvement; however, early lesion cases and their partners will be given priority for a designated period of time to be determined by the Outbreak Response Team's Supervisor. The overall transmission rate will be reviewed weekly by the Outbreak Response Team's Supervisor and the DIS Supervisor to determine if the response has been effective in reducing the case numbers and controlling the outbreak.

Option # 2: If case numbers do not decrease, the HIV/AIDS/STD Program and State Epidemiologist will consult the CDC Epidemiology Program Office and, if indicated, request a CDC Epi-Aid to establish a more long term intervention plan utilizing CDC guidance and personnel. Information regarding the outbreak may also be posted to Epi-X at this time.

Level 5 Examination of morbidity by the HIV/AIDS/STD Program's Medical Director, State Health Officer, and the State Epidemiologist, in consultation with the STD CDC Project Officer and CDC's Epidemiology Program Office should an Epi-Aid be needed.

Level 5 is considered an "accelerated outbreak" and is defined as rapid transmission of disease not effectively contained by the Program in collaboration with the county health department(s) and the extension of cases into other areas. A declaration of Level 5 acknowledges a consensus from the HIV/AIDS/STD Program and the county health department(s) that their combined efforts are not effectively managing the increase in case number nor the extension of cases into other areas due to lack of personnel or expertise. The HIV/AIDS/STD Program will consult the CDC and, if indicated, request assistance to establish a more long term intervention plan utilizing CDC guidance and personnel. (The Level 5 threshold for chlamydia is 220 cases per 100,000 population; gonorrhea is 75 cases per 100,000 population; and hepatitis B is 109 cases per 100,000 population.)

### **Response Team, Staff Considerations**

The West Virginia STD Outbreak Response Team will be staffed by HIV/AIDS/STD Medical Director, DIS Supervisor, DIS Investigators, the Adult Viral Hepatitis Coordinator, an HIV Prevention Specialist, the Data Manager, the STD Data Entry Specialist and the STD Epidemiologist. All team members will have expertise in their designated field. The Response Team is limited to consultation in an advisory capacity until Level 4 is declared, at which time a determination has been made that the county health department cannot effectively manage the

increase in syphilis case numbers. This decision is made by the HIV/AIDS/ STD Program's Medical Director, DIS Supervisor, and the State Epidemiologist in consultation with the STD CDC Project Officer and the County Health Officer. Duties of the team members will be contingent upon the severity of the outbreak and the county health department resources but will involve interviews of new syphilis cases and investigations of contacts/partners in the field.

During a Level 4 event that requires more than short term involvement by HIV/AIDS/STD Program staff, all team members will be on-site for coverage of the outbreak for a minimum period of the first week and will return to the site as needed. The DIS Supervisor will continue to be on-site for coverage of the outbreak for a minimum period of the first two weeks and will return to the site on at least a weekly basis thereafter until the outbreak is contained. At least two DIS will be on-site for a minimum of the first two weeks. The DIS assigned to the area (including the potential DIS floater) will continue to be on-site until the outbreak is contained. The other DIS, assigned to the nearest region bordering the area, will continue on-site for a minimum of two weeks and will return to the site as needed. The West Virginia STD Outbreak Response Team will mobilize within a maximum of two days from the date of declaration of an outbreak and will disband once a significant reduction in case numbers is evident and the outbreak response is recalled by the Team Supervisor.

### **Pre-outbreak Assessment**

The DIS for each region, under the direct supervision of the DIS Supervisor, will perform an assessment for each county regarding the availability of local resources, including personnel, in the event of an outbreak. The assessment will require collaboration with the county health department(s) and health officer(s), local hospital(s) and clinic(s), local urgent care center(s), private physicians, local correctional facilities, and others that may contribute to the outbreak plan. The assessments will require periodic revisions at least once a year. The DIS for each region will maintain the Pre-syphilis Outbreak checklist through written and verbal communication with local health providers to assure that facilities, data, equipment, and other supplies are readily available in case of an outbreak.

### **Pre-outbreak Checklist**

#### *Health Facilities*

- What is the capacity of the facility?
- Will the facility accommodate the patients' need for confidentiality and interviews?
- How many examination rooms are available within the facility?
- Are the examination rooms private?
- Does each room provide adequate space?
- Are the facility hours flexible and/or are evening/weekend hours available?
- Are required tests for STDs available upon request at the facility?
- Is the facility staffed with a physician, physician assistant and/or nurse practitioner and if so, during what days/hours?
- Is the facility accessible by public transportation?

Is there any other local facility that would accommodate the needs of an outbreak?  
Is the contact number for the HIV/AIDS/STD “Hotline” posted in prominent locations?  
Is parking available, and if so, is the parking sufficient?  
Is the facility supported by state funding?  
Can the facility accommodate the administrative needs (space, supplies, and Internet) of the STD Outbreak Response Team? If not, are there other facilities in the area that could?

### *Personnel*

What individual would be identified as the “lead” person at the local level for an outbreak response?  
How will the lead person communicate with the Outbreak Response Team’s Supervisor and/or team members?  
Who will be in the local chain of command?  
How many medical personnel will be available for an outbreak response?  
Are there medical personnel that can be recruited from other local health facilities for the outbreak response?  
Is there a diversity of personnel available, such as physicians, physician’s assistants, nurse practitioners, registered and practical nurses, medical assistants, secretarial staff, and laboratory staff, available for the outbreak response?  
Are there other personnel from other disciplines within the county health department and in the community that can be recruited for the outbreak response?  
Does the county health department have the financial resources to support an outbreak i.e. for salaries, overtime, supplies?  
Does the county health department have an emergency plan for an outbreak? Do all staff know the procedures/protocols?

### *Supplies and Drugs*

What supplies i.e. needles, syringes, alcohol swabs, dressings, laboratory collection devices/kits are kept in stock and how quickly can the inventory be re-stocked?  
What drugs used to treat STDs as recommended by CDC are kept in stock and how quickly can these drugs be re-stocked?  
Are there local and hospital pharmacies that would supply drugs and/or supplies to the county health department for an outbreak response?

### *Other Considerations*

What accommodations are available for lodging and are government rates offered?  
What accommodations are available for meals?

## **OUTBREAK INVESTIGATION**

*Initiation of Investigation* The Medical Director and the DIS Supervisor will meet with the county health department Administrator and Director of Nursing, the County Health Officer, community leaders, and any others that may contribute to the investigation of the outbreak. The meeting will be an opportunity to openly discuss the severity of the outbreak, necessary and available resources such as staff, facilities, supplies/drugs, and arrangements for food and

lodging for the Outbreak Response Team. Community concerns and the community's response should be addressed as well as how and when will the media be involved and who will be the spokesperson for the Team and the community. A reasonable timeline should be established. This meeting should lead to problem solving and a cohesive, collaborative approach to the problem.

*Data Collection* The Program's Medical Director, DIS Supervisor, Epidemiologist, and Data Manager will review data in STD\*MIS i.e. positive serology and morbidity reports. Information may be available from other resources such as community clinics, police arrest records, correctional facilities, educational institutions, physicians' offices, hospitals, and urgent care facilities. Clinic/hospital/physician medical records should be requested if indicated. All essential information should be collected and organized as accurately and timely as possible and be made available for the outbreak investigation. Missing information should immediately be pursued. Submitted case reports will require a review by the DIS Supervisor for accuracy, completion, and timeliness. Other information will require maintenance of a filing system, either paper or electronic, that will be readily available to personnel. DIS staff and the program's support staff will be available to assist in the collection, sorting, organizing, and filing of the information.

*Data Analysis* The Program's Medical Director, DIS Supervisor, Data Manager, and Epidemiologist will analyze the data to identify trends and/or other significant characteristics of the outbreak to assist in the investigation. The final analysis will include development of an epi-curve; identification of similarities and differences (demographics, risk factors) of infected patients prior to the outbreak and the outbreak patient population; identification of trends if present; a review of prior outbreaks and possible connections to the outbreak under investigation; mapping of the cases geographically and compare to previous outbreak patterns; and recognition of disease in neighboring regions/states.

*Surveillance Systems Evaluation* The Program's Medical Director, DIS Supervisor, Data Manager, and Epidemiologist will evaluate and determine if the current surveillance system will be efficient and effective during an outbreak. The system should be capable of defining characteristics of the outbreak; and be user-friendly, flexible, and adaptable. Changes to the surveillance system should be made to increase the number of cases identified. The surveillance system should receive reports of possible cases and accurately identifying true positives and true negatives. The population identified by the system should be representative of the outbreak population. Timeliness of identification and reporting of cases will allow for immediate intervention and interruption of the transmission and spread of the infectious disease.

*Additional Surveillance Data Evaluation* The Program's Medical Director, DIS Supervisor, Data Manager, and Epidemiologist will evaluate other data such as social networks, drug use, prostitution, and prevalence monitoring data from similar populations.

*Diagnosis Confirmation* The Program's Medical Director and DIS Supervisor will review clinical and laboratory data to ensure accurate diagnoses.

*Clinical and Risk Data Review* The Program's Medical Director, DIS Supervisor, and Epidemiologist will utilize case management activities to demonstrate clinical/risk profiles of the

outbreak. Clinical presentation (symptomatic vs. asymptomatic), stage of disease, referral status, distribution of providers, common risk factors, and co-infection rates will be documented.

*Investigation, Clinical, and Laboratory Services Evaluation* The Program's Medical Director and DIS Supervisor will meet with the local county health department, the County Health Officer and the Office of Laboratory Services to evaluate the actual disease investigation i.e. availability and number of staff, clinical services and hours, scheduling policies, and availability of specific laboratory tests and drugs. The quality of the resources needs to be assessed and the usefulness of those resources be determined.

*Hypothesis Generation* The Program's Medical Director, DIS Supervisor, and Epidemiologist will form a hypothesis regarding the location and origination of the disease. Plans for intervention and interruption of the spread of the disease, a timeframe for the response, and resource utilization will be established. The review of all data including medical records, education of personnel, formation of a focus group with the DIS, and interviews with community members should provide valuable information leading to the generation of a hypothesis.

## **DEPLOYMENT OF THE OUTBREAK RESPONSE PLAN/PROGRAM AND COMMUNITY BASED INTERVENTIONS**

*Step 1* The Division of Surveillance and Disease Control will declare the outbreak, determine the threshold response level, release a West Virginia Health Alert through the State Health Officer, and initiate the call to the STD Outbreak Response Team.

*Step 2* The HIV/AIDS/STD Program's Medical Director and DIS Supervisor will report to the Program's office (base of operations) and notify the team members (including at least one Program support staff member) of the need to mobilize with instructions for local staff to report to the Program's office within two hours. The DIS staff will report within a reasonable time period as determined by their location at the time of mobilization.

*Step 3* The Medical Director will contact the local health department clinical supervisor and county Health Officer with information regarding the estimated time of arrival of the STD Outbreak Response team and a request of confirmation of the previously established logistical plan (base facility of operation, local staff availability, lodging and meal accommodations, etc.).

*Step 4* The Medical Director, in coordination with the DIS Supervisor and Program support staff, will communicate logistical plans to the STD Outreach Response Team members once the team is assembled in the Program's office. Arrangements for transportation and lodging of local team members will be supervised by Program support staff.

*Step 5* The STD Outreach Response Team will report to the local health department (or other designated facility) to meet with the local supervisor, the County Health Officer, and community leader(s) to establish daily activities/work times and ensure placement of logistical components (the county health department/work site, supplies and drugs inventory, communication systems, etc.)

*Step 6* Under the supervision of the Medical Director, an initial strategy session will be scheduled in which the Outbreak Response Team's Supervisor (HIV/AIDS/STD Program Medical Director), the DIS Supervisor, the local supervisor, the County Health Officer, and local community leader(s) will be in attendance to discuss specific interventions:

- collaborative partnerships with local hospitals/laboratories, community clinics, correctional facilities for education, testing and testing sites, treatment, outreach activities;
- media coverage of the outbreak will be managed through the State Epidemiologist with the DHHR Office of Communications and the Governor's Office;
- deployment of and assignments for personnel; and
- screening criteria, outreach activities, and other clinical services such as other STDs/HIV/hepatitis B testing and treatment.

*Step 7* Once all available options for intervention have been discussed and data has been reviewed, all personnel involved in the outbreak response should reach a consensus as to which course of action will be taken for initial deployment. Approval will be obtained from the HIV/AIDS/STD Program prior to the initiation of deployment. The STD Outbreak Response Team will be notified of the strategy by the Supervisor. The local supervisor will notify all local personnel of the plan.

*Step 8* All members of the Team and local personnel will convene daily, once in the morning and again in the evening, to discuss daily activities, evaluate interventions and progress, and plan next day activities.

*Step 9* The Outbreak Response Team's Supervisor, DIS Supervisor, Data Manager, and Epidemiologist will convene daily to monitor, direct, and evaluate disease intervention strategy using case management methods.

*Step 10* The Outbreak Response Team's Supervisor will communicate with the State Epidemiologist on a daily basis reporting the developments and progress of the outbreak response efforts.

*Step 11* Based upon a continuous evaluation of data and disease interventions, a decision to de-escalate threshold response levels or cease outbreak activities, will be made by the STD Outbreak Response Team. The Supervisor and the State Epidemiologist, in collaboration with the State Health Officer, will review the recommendations and make the final decision.

*Step 12* The Supervisor will inform the STD Outbreak Response Team and local personnel of the decision and HIV/AIDS/STD Program staff will return to pre-outbreak response plan level.

## **OUTREACH RESPONSE PLAN EVALUATION**

The effectiveness of the Outbreak Response Plan will be evaluated by the HIV/AIDS/STD Program's Medical Director, the DIS Supervisor, the Data Manager, the Epidemiologist, and the State Epidemiologist through the following methods to determine satisfaction with the interventions, as well as perceived success/failure of the Plan:

- survey Outbreak Response Team members, local personnel, physicians, and other private providers involved in the Outbreak Response Plan;
- analyze data i.e. number of partners, suspects, associates identified/initiated, case numbers, number of partners brought to treatment, number of cases;
- calculate contact index, disease intervention indices (per case and aggregate basis), and case linkage rates;
- investigate and disposition new cases, reactors, and contacts within 14 days;
- identify number and size of social networks through interviews;
- monitor congenital syphilis case reports to identify treatment failures;
- survey providers regarding case reporting practice and diagnostic ability as a result of their educational experience during the outbreak;
- survey private laboratories regarding case reporting practice and OLS regarding the logistics of testing and case reporting.
- prepare a cost/benefit analysis of the Outbreak Response Plan by calculating all personnel cost in terms of regular time, overtime, and travel expenses; and
- evaluate the STD Outbreak Response Team membership organization and effectiveness in terms of intervention skills (interview, field investigation, case management, leadership, organizational, communication) and recommend changes if indicated.

An Outbreak Response Plan and Surveillance System Evaluation will be performed (1) immediately following cessation of an outbreak response; (2) immediately following any administrative change i.e. team member organization, protocols, etc.; or (3) on an annual basis.

The WVDHHR Outbreak Response Plan is designed to successfully prevent and control the transmission of syphilis within the state during an outbreak; however, the plan is applicable for all sexually transmitted infectious diseases. The plan is carefully structured to address all components required for a successful outbreak response. The West Virginia STD Outbreak Response Plan provides for the collaboration of the HIV/AIDS/STD Program, the State Epidemiologist, the State Health Officer, the CDC, county health departments, and other local health care providers.