STD PCHD

Strengthening STD Prevention and Control for Health Departments

Technical Assistance Note # 6 | Outbreak response

From Strategy Area II: Conduct Disease Investigation and Intervention
6. Respond to STD-related outbreaks a. Review STD surveillance data by the core epidemiologic variables at regular intervals to identify outbreaks and other significant changes in STD epidemiology b. Develop and maintain an outbreak capacity plan to respond to significant changes in STD epidemiology. Ensure that staff are trained and ready to implement the outbreak capacity plan

Why DSTDP included these strategies

Outbreaks or unexpected sudden increases in disease burden over a short time period in a given area are indicators of possible breakdowns in the health and prevention systems and are often tied to various social determinants of health. They also may indicate an increase in risky behaviors, an influx of a new, at-risk population, changes in the sexual networking patterns in the jurisdiction. The causes of outbreaks are manifold, including structural, social, and individual level factors.

STD programs are the front line of defense against increased transmission of STDs, and as such, must routinely examine data to assess whether changes in burden in a given time period are of concern. Additionally, they must try to respond with appropriate staff, resources, and interventions to address the increase. Programs should share results and lessons learned with other programs, to build the knowledge and evidence base related to outbreak identification and response.

Key definitions

Outbreaks: An increase of disease among a specific population in a geographic area during a specific period of time

Routine review of data: Depending on the jurisdiction, this may be monthly, bi-monthly, or quarterly. The program staff should review case reports by county and by other geographic areas (e.g., cities, tribal reservations). Case report data should be reviewed, at a minimum, by sex, race/ethnicity, age, geography, and diagnosing provider.

After-action report: A report that describes the outbreak response from pre-outbreak to post-outbreak, including staff, financial, and other resources used in the response, indices of success in addressing the outbreak, fidelity to response plan, needed changes in the response plan, and lessons learned.

Considerations for implementation

Reviewing data to identify outbreaks and other changes in STD epidemology

- On at least a quarterly basis, generate descriptive reports that display monthly counts and rates of reported chlamydia, gonorrhea, and syphilis cases:
    - Stratify data by a meaningful geographic level (e.g., county), age (e.g., 5-year age categories), sex/gender, race/ethnicity, and diagnosing provider type

    - If available, stratify by additional variables such as HIV status, gender of sex partners, substance use history, or other known risk factors
    - For syphilis among adults, display data by stage of syphilis; primary and secondary (P&S) stages are often combined. Congenital syphilis should be reported separately.
    - When possible, develop automated approaches to generating reports
- Review reports for findings that may warrant further data analysis, such as unexpected increases or decreases or changes in the demographic and other characteristics of reported cases
    - Investigate whether changes in reporting or data management are influencing the patterns observed in the data. For example, if a laboratory has suddenly stopped reporting, an apparent decline in disease could simply reflect under-reporting
    - Consider how to handle missing data and whether the amount of missing data affects data interpretation.
- Review other low morbidity STD case report data (e.g. LGV, congenital syphilis) by county and gender at least quarterly to identify potential clusters
- Convene meetings of STD program staff at least quarterly to review and discuss the data. Include individuals familiar with the program and the data, such as staff responsible for entering data and generating data reports, program managers, and partner services staff and supervisors
- Focus on changes in the number of cases of early syphilis (especially cases among women and pregnant women) and gonorrhea
- Identify changes in the case report data that warrant further investigation and/or public health action. These may include:
    - Organisms with clinically significant resistance (e.g., gonorrhea that is unsuccessfully treated with recommended therapy).
    - Organisms not previously or recently detected in the jurisdiction (e.g., LGV, chancroid).
    - New populations or subgroups affected (e.g., syphilis among females, among attendees of a school)
    - New/rare clinical presentations of diseases (e.g., ocular syphilis).
    - New geographic areas (e.g., syphilis on a Native American reservation that has not seen syphilis in many years).
    - Any other distinguishing characteristic related to cases in a cluster.

The threshold for declaring an increase in reported cases to be an "outbreak" depends on local epidemiology, thus jurisdictions use their own thresholds to assess increases and outbreaks.

Developing and practicing a plan for outbreak response

- Consider using existing examples (from within or outside your jurisdiction). Check with your Emergency Preparedness office for recent outbreak response plans developed for other situations. Tailor them to the STD program in your area.
- Explore possible barriers and challenges in responding to an increased STD burden in your jurisdiction, as well as how your jurisdiction could overcome these challenges. For example, consider resources needed to respond to a 50% increase in syphilis in the locality, specifically addressing anticipated needs for data entry, case and partner interviewing, and epidemiology capacity, as well as potential treatment needs (such as Benzathine penicillin G)
- Consider methods of mobilizing additional resources (personnel, financial, treatment, and others) to respond to an increase in STD burden

- Consider the state's ability to pull health department staff from other departments to provide additional help
- Consider capacity and feasibility to cross-train health department staff (such as those from other departments) in partner services techniques
- Consider the ability to move staff in a timely manner within the state to respond to increases
- Pro-actively develop memoranda of understanding (MOUs) to allow the transfer of staff or supplies (e.g. Benzathine penicillin G) between counties or surrounding states in emergency situations
- Develop relationships with local health department emergency preparedness and response staff

- Include plans to collaborate with tribal entities or neighboring states that may be affected by an increase

Outline for an Outbreak Response Plan	
1. Outbreak Preparedness a. Activation of the outbreak plan b. Roles and responsibilities c. Additional staffing capacity d. Data security e. Communication plan f. Identify existing partnerships, both internal and external to the health department **2. Managing a response** a. Management structure and staffing mix b. Informing, coordinating, and engaging with partners c. Prioritization of disease	**3. Outbreak Investigation and response** a. Determine the existence of an outbreak b. Verify the diagnoses c. Establish a case definition and find cases d. Describe the data in terms of person, place, and time e. Determine who is at risk of becoming ill f. Develop a hypothesis that explains the etiology of the outbreak g. Compare the hypothesis with established facts h. Plan a more systematic study i. Implement prevention and control measures j. Summarize findings and evaluate response

- Practice implementing the outbreak response plan. Conduct STD-related "Tabletop Exercises" or other STD emergency-situation practice drills, to ensure staff readiness
- During an outbreak
  - Monitor staff resources devoted to outbreak response
  - Monitor indices of success in outbreak response, such as partner services indices
  - Note the date that an outbreak was declared, the date it ended, and important "milestone" dates throughout the response
  - Note any deviations from the protocol outlined in the outbreak response plan
- Share response activities, results and lessons learned to other jurisdictions via a webinar, poster, presentation, or other document. Update any protocols or policies that need revision based on lessons learned from most recent outbreak

Other resources

- Program Operations Guidelines for outbreak response
- CSTE Syphilis Outbreak Detection Guideline
- STD Outbreak response plan guide: https://www.cdc.gov/std/funding/docs/outbreak-response-plan.pdf

For more information or feedback on this document, contact your DSTDP Prevention Specialist or email STD_PCHD@cdc.gov. CDC's Division of STD Prevention, Program Development and Quality Improvement Branch, developed this document for recipients of PS19-1901 STD PCHD to provide additional clarification of strategies outlined in that NOFO and to support program implementation. The content here does not represent additional NOFO requirements nor official CDC recommendations. Issue date: April 2019