The Sexually Transmitted Disease Surveillance Capacity Framework Guidance
Version 1 - Published 3/1/19

Evaluation & Quality Improvement

Data collection
Data management
Data analysis & visualization
Data sharing & dissemination

Policy & Infrastructure
Please note that all resources, examples and website links included in the following guidance are current as of June 28, 2018 and subject to change.

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Abbreviations

CDC  Centers for Disease Control and Prevention
CSTE  Council of State and Territorial Epidemiologists
DAV  Data Analysis and Visualization
DC  Data Collection
DM  Data Management
DSD  Data Sharing and Dissemination
DSTDP  Division of Sexually Transmitted Disease Prevention
EA  Enhanced Activity
EQI  Evaluation and Quality Improvement
FA  Foundational Activity
HIV  Human Immunodeficiency Virus
PI  Policy and Infrastructure
STD  Sexually Transmitted Disease
STLT  State, Territorial, Local and Tribal
Overview

This guidance describes a sexually transmitted disease (STD) surveillance capacity framework for state and local health departments. It was developed by the Council of State and Territorial Epidemiologists (CSTE) and the Centers for Disease Control (CDC) and Prevention, Division of STD Prevention (DSTDP) after conducting a key informant evaluation of STD surveillance activities in 2017. Information collected during the evaluation was further refined for presentation here through input from surveillance subject matter experts in the DSTDP, representatives from state, territorial, local, and tribal (STLT) STD surveillance programs and agencies, as well as additional staff from federal partners, CDC, and CSTE.

The main goals of this guidance are:

1. To provide state and local STD surveillance programs documentation of the foundational and enhanced activities critical for STD surveillance.
2. To identify existing resources and technical assistance materials for identified foundational and enhanced activities.
3. To describe additional resources and technical assistance materials that might be needed.

Introduction

During 2013–2016, increasing rates of reported chlamydia, gonorrhea, and syphilis were observed nationally. The burden on public health surveillance continues to grow as case reports for these conditions increase. In 2016, approximately 1.6 million cases of chlamydia were reported, representing the highest number of annual cases of any condition ever reported to CDC and an increase of 14% since 2013. During the same time period, substantial increases in the number of reported gonorrhea and all syphilis cases were also observed, of 41%, and 56%, respectively. Additionally, the number of reported cases of congenital syphilis increased by 76% during this time period, after a sustained decline from 2008 through 2012.1

In light of these increasing trends, the enhancement of STD epidemiologic surveillance programs is a CSTE strategic priority area. Understanding to what capacity state and local health departments are currently able to conduct STD surveillance is a critical preliminary step in improving surveillance programs in the future. To help gain this knowledge, CSTE and CDC conducted a key informant evaluation with 15 surveillance programs of varying morbidity levels. Informants suggested 81 foundational activities and 86 enhanced activities. Foundational activities are core to understanding trends in STDs that should be completed by all STD surveillance programs, while enhanced activities are important to understanding trends in STDs that should be completed by STD surveillance programs after full implementation of foundational activities. The activities were placed in six categories: (1) policy and infrastructure; 2) data collection; 3) data management; 4) data analysis and visualization; 5) data sharing and reporting; and 6) evaluation and quality improvement (See figure below).

Findings from this evaluation identified the need for guidance to describe the foundational and enhanced activities critical for STD surveillance, as well as available resources, technical assistance materials, and standards to assist with carrying out these activities.

Methods

After completion of the key informant evaluation with STLT surveillance programs, a draft guidance document was created based upon the findings. Next, a small working group of CSTE staff, CDC DSTDP staff, and STLT surveillance coordinators from STLT programs reviewed the guidance to identify any core or enhanced activities that should be added or removed from the framework. The working group also reviewed the resources and technical assistance materials highlighted in the draft and suggested additional materials and STLT examples for inclusion. After compiling this additional information into a revised guidance document, further input and review was gained from a larger group of representatives from STLT agencies, as well as additional staff from federal partners, CDC, and CSTE.

The following sections describe the finalized recommendations for foundational and enhanced STD surveillance activities for state and local health departments for each of the six framework categories: (1) policy and infrastructure; 2) data collection; 3) data management; 4) data analysis and visualization; 5) data sharing and reporting; and 6) evaluation and quality improvement. Available resources and technical assistance materials as well as examples from STLT STD surveillance programs for each activity are also described.
EXECUTIVE SUMMARY

To improve the quality of STD surveillance and maximize the impact of disease prevention, the STD Surveillance Capacity Framework identifies foundational and enhanced activities critical for STD surveillance for six categories:

POLICY & INFRASTRUCTURE (PI)

FOUNDATIONAL ACTIVITIES:
1. Maintain a STD Surveillance Information System
2. Maintain staffing capacity
3. Maintain documentation of state regulations
4. Ensure implementation of confidentiality and security guidelines
5. Create and maintain a comprehensive STD surveillance system user manual
6. Maintain written protocols and procedures
7. Maintain case definitions

ENHANCED ACTIVITIES:
1. Encourage reporting through outreach and education efforts
2. Conduct annual lab survey

DATA COLLECTION (DC)

FOUNDATIONAL ACTIVITIES:
1. Collect core variables on all reported cases of chlamydia, gonorrhea, and syphilis
2. Electronic laboratory reporting
3. Ensure that data elements are collected in a standardized and consistent way
4. Ensure that cases are assigned to the correct jurisdiction
5. Collect additional data elements on a random sample or priority set of cases

ENHANCED ACTIVITIES:
1. Electronic case reporting
2. Conduct sentinel surveillance
3. Collect key data elements for negative laboratory test results

DATA MANAGEMENT (DM)

FOUNDATIONAL ACTIVITIES:
1. Routinely de-duplicate
2. Routinely assess completeness
3. Routinely perform logic checks to improve validity
4. Establish and maintain routine data cleaning
5. Carry out weekly data transmissions to CDC
6. Conduct an annual routine evaluation of the National Electronic Telecommunication System for Surveillance (NETSS) extract

ENHANCED ACTIVITIES:
1. Automate data management processes
2. Conduct matching of STD cases to other reported conditions
3. Conduct automated matching of STD cases to other databases
4. Maintain a STD surveillance information system that can associate additional data
DATA ANALYSIS AND VISUALIZATION (DAV)

FOUNDATIONAL ACTIVITIES:
1. Conduct routine analyses to determine trends in the number, distribution, and rate of reported cases
2. Identify significant changes in case counts
3. Create basic charts, graphs and maps

ENHANCED ACTIVITIES:
1. Create enhanced maps, i.e. cluster, layered, or hot spot maps
2. Link case report data to additional data sources
3. Conduct analyses of surveillance and partner services data for data-driven planning
4. Conduct network analysis

DATA SHARING AND DISSEMINATION (DSD)

FOUNDATIONAL ACTIVITIES:
1. Routinely share STD surveillance data with STD prevention program staff
2. Disseminate surveillance information through publication of an annual STD surveillance report
3. Respond to internal data requests
4. Routinely share STD surveillance data with local health departments

ENHANCED ACTIVITIES:
1. Respond to data requests from external partners
2. Disseminate surveillance data through web-based query and data visualization platform
3. Contribute to county and neighborhood health profiles
4. Create an online STD data dashboard
5. Create quarterly surveillance reports
6. Create supplemental STD surveillance reports or fact sheets
7. Create infographics

EVALUATION AND QUALITY IMPROVEMENT (EQI)

FOUNDATIONAL ACTIVITIES:
1. Develop, conduct, and document quality assurance procedures to monitor and improve completeness
2. Develop, conduct, and document quality assurance procedures to monitor and improve timeliness
3. Develop, conduct, and document quality assurance procedures to monitor and improve accuracy of de-duplication methods
4. Follow up with providers and laboratories to improve completeness

ENHANCED ACTIVITIES:
1. Evaluate attributes of surveillance program to identify areas for quality improvement activities
2. Engage in staff training, support and evaluation
3. Participate in national and local forums

Additional details regarding the activities, as well as resources, references, technical assistance materials, and examples from STLT agencies pertaining to them, are also included in the following guidance to assist state and local health departments in fulfilling the STD Surveillance Capacity Framework.

Executive Summary
Policy and infrastructure is an overarching framework category that pertains to the other categories of data collection, data management, data analysis and visualization, and data sharing and dissemination. Policy and infrastructure activities refer to the “backbone of an STD surveillance program”, or the structure, authority and policies that must exist before other activities and functions can be carried out. Such activities include the establishment and documentation of standards, guidelines and protocols; as well as staffing and structural capacity. Below is a listing of recommended foundational activities (FA) and enhanced activities (EA) for policy and infrastructure that are critical for STD surveillance, as well as resources and examples from state, territorial, local, and tribal (STLT) STD surveillance programs, where available.

**POLICY & INFRASTRUCTURE: FOUNDATIONAL ACTIVITIES 1-7**

**PI Foundational Activity 1:** Maintain a STD Surveillance Information System which meets data security requirements and general requirements for a STD Information System

**PI FA 1 RESOURCES:**
- Generic STD Information System Requirements: https://www.cdc.gov/std/program/generic.htm
- STD Information Systems currently available: https://www.cdc.gov/std/program/data-mgmt.htm

**PI FA 1 STLT EXAMPLES:**

**PI Foundational Activity 2:** Maintain adequate and appropriate staffing capacity to accomplish all core activities

**PI FA2 RESOURCES:**
- “Personnel, Training, And Resources”, page S-12, Program Operations Guidelines for STD Prevention- Surveillance and Data Management: https://www.cdc.gov/std/program/surveillance.pdf Please note that references to the Program Operations Guidelines (POGs) are mainly for historical purposes, any current guidance in development will supersede recommendations included in them.
PI Foundational Activity 3: Maintain documentation of state regulations related to reportable STD conditions

PI FA3 RESOURCES:

- “Legal Authority” page S-2, Program Operations Guidelines for STD Prevention- Surveillance and Data Management https://www.cdc.gov/std/program/surveillance.pdf Please note that references to the Program Operations Guidelines (POGs) are mainly for historical purposes, any current guidance in development will supersede recommendations included in them.

PI FA3 STLT EXAMPLES:


PI Foundational Activity 4: Ensure implementation of confidentiality and security guidelines according to National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) guidelines and in consideration of Health Insurance Portability and Accountability Act (HIPAA) regulations, including conducting an annual data security training update

PI FA4 RESOURCES:

- Data Security and Confidentiality Guidelines for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs: Standards to Facilitate Sharing and Use of Surveillance Data for Public Health Action: https://www.cdc.gov/nchhstp/programintegration/docs/pcsidatasecurityguidelines.pdf
- Standards to Facilitate Data Sharing and Use of Surveillance Data for Public Health Action available at: https://www.cdc.gov/nchhstp/programintegration/sc-standards.htm
- Ten Guiding Principles for Data Collection, Storage, Sharing, and Use to Ensure Security and Confidentiality: https://www.cdc.gov/nchhstp/programintegration/tenguidingprinciples.htm

PI FA4 STLT EXAMPLES:

- Massachusetts: https://www.mass.gov/service-details/public-health-confidentiality-policy-and-procedures
- Texas: https://www.dshs.texas.gov/hivstd/policy/security.shtm
- Georgia: https://sendss.state.ga.us/newsendss/doc/Georgia_Confidentiality_Policy.pdf
PI Foundational Activity 5: Create and maintain a comprehensive STD surveillance system user manual to document all database procedures inclusive of data entry, data management, data analyses, and historical changes to the system; consider including a data flow chart to document the flow of STD data into and out of the surveillance system.

PI Foundational Activity 6: Maintain written protocols and procedures for conducting all surveillance processes.

PI Foundational Activity 7: Maintain case definitions consistent with most current guidance from CSTE/CDC.

PI FA7 RESOURCES:
- CSTE Position Statements: https://www.cste.org/page/PositionStatements
POLICY AND INFRASTRUCTURE: ENHANCED ACTIVITIES 1-2

**PI Enhanced Activity 1:** Encourage and facilitate reporting by providers and labs through outreach and education efforts

**PI EA1 STLT EXAMPLES:**

- Infectious disease surveillance, reporting, and control from the Massachusetts Bureau of Infectious Disease and Laboratory Sciences: [https://www.mass.gov/infectious-disease-surveillance-reporting-and-control](https://www.mass.gov/infectious-disease-surveillance-reporting-and-control)

**PI Enhanced Activity 2:** Conduct an annual lab survey to monitor STD testing capacity in jurisdictions

**PI EA2 RESOURCES:**

- Sample serology laboratory site visit worksheet: Appendix S-C: Program Operations Guidelines for STD Prevention: Surveillance and Data Management: [https://www.cdc.gov/std/program/surveillance.pdf](https://www.cdc.gov/std/program/surveillance.pdf)
  
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  *Please note that references to the Program Operations Guidelines (POGs) are mainly for historical purposes, any current guidance in development will supersede recommendations included in them.*
DATA COLLECTION (DC)

The process of collecting data for entry into the STD surveillance information system is the first step of STD surveillance once policy has established the program’s authority to do so, and the necessary infrastructure is in place. Collection of data elements can be carried out through multiple methods such as electronic laboratory reporting, manual case reporting, or electronic case reporting. Below is a listing of recommended foundational activities (FA) and enhanced activities (EA) for data collection that are critical to STD surveillance, as well as resources and examples from state, territorial, local and tribal (STLT) STD surveillance programs, where available.

DATA COLLECTION: FOUNDATIONAL ACTIVITIES 1-5

DC Foundational Activity 1: Collect core variables on all reported cases of chlamydia, gonorrhea, and syphilis
Note: Required core variables may vary by disease but generally are considered those essential for counting and/or investigating reported cases accurately and for describing trends in reported cases in key populations at the local and state level. The majority of these variables should be reported to CDC; however, some core variables may not be able to be transmitted via NETSS (National Electronic Telecommunications System for Surveillance) or the STD MMG (Message Mapping Guide).

DC FA1 RESOURCES:
- Modifiable field records, interview records and interview templates are available at: https://www.cdc.gov/std/Program/forms/

DC Foundational Activity 2: Receive, process, and electronically consume laboratory reports into a STD surveillance information system

DC FA 2 RESOURCES:
- CDC Electronic Laboratory Reporting Technical Assistance: https://www.cdc.gov/elr/technical-assistance.html
- CDC Electronic Laboratory Reporting Meaningful Use: https://www.cdc.gov/ehrmeaningfuluse/elr.html

DC FA 2 STLT EXAMPLES:
- Minnesota Department of Health Electronic Laboratory Reporting and Meaningful use: http://www.health.state.mn.us/medss/elr.html
- Tennessee Department of Health Laboratory Result Reporting: https://www.tn.gov/health/cedep/meaningful-use-summary/laboratory-result-reporting.html
- Utah Department of Health: http://health.utah.gov/epi/reporting/Lab_Reporting_Specs_Electronic.pdf
- Virginia Department of Health
DC Foundational Activity 3: Ensure that data elements are collected in a standardized and consistent way, adhering to national standards where available

DC FA 3 RESOURCES:
- NETSS Record Layout: https://www.cdc.gov/std/program/std-netssimpln-v5_2018jan.pdf
- Modifiable field records, interview records and interview templates available at: https://www.cdc.gov/std/Program/forms

DC FA 3 STLT EXAMPLES, Case Report Forms:
- Minnesota: http://www.health.state.mn.us/divs/idepc/dtopics/reportable/forms/stdcasereportcard.html
- California: https://www.cdph.ca.gov/Programs/PSB/Pages/CommunicableDiseaseControl.aspx
- New Mexico: https://nmhealth.org/publication/view/form/1594/

DC Foundational Activity 4: Ensure that cases are assigned to the correct jurisdiction at the city, county and state levels

DC FA 4 RESOURCES:

DC FA 4 STLT EXAMPLES:
- Use of Geocoding by Virginia to appropriately assign cases to city of Richmond, Chesterfield County, and Henrico County: Stover JA, Kheirallah KA, Delcher PC, Dolan CB, Johnson L. Improving Surveillance of Sexually Transmitted Diseases through Geocoded Morbidity Assignment. Public Health Reports. 2009;124(Suppl 2):65-71. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2775402/

DC Foundational Activity 5: Collect additional data elements on a random sample of reported cases, or a priority set of cases in a well-defined geographic area

DC FA 5 RESOURCES:
- The STD Surveillance Network (SSuN) is a collaboration of competitively funded state, city and county health departments currently implementing similar enhanced surveillance on a random sample of reported cases following rigorous,
standardized protocols. More information about SSuN, including protocols and data collection tools are available at: https://www.cdc.gov/std/ssun/default.htm

DC FA5 STLT EXAMPLES:


DATA COLLECTION: ENHANCED ACTIVITIES 1-3

DC Enhanced Activity 1: Receive and consume case reports electronically from high burden providers via electronic health record (EHR) or electronic medical record (EMR)

DC EA1 RESOURCES:


DC EA1 STLT EXAMPLES:

- Wisconsin Department of Health Services Electronic Case Reporting: https://www.dhs.wisconsin.gov/phmu/electroniccasereporting.htm
DC Enhanced Activity 2: Conduct sentinel surveillance in high volume clinical settings or through outreach training to monitor trends in positivity

DC EA2 RESOURCES:

- The STD Surveillance Network (SSuN) is a collaboration of competitively funded state, city and county health departments currently implementing enhanced surveillance in participating STD clinics following rigorous, standardized protocols. More information about SSuN, including protocols and data collection tools are available at: https://www.cdc.gov/std/ssun/default.htm

DC EA2 STLT EXAMPLES:


DC Enhanced Activity 3: Collect key data elements for negative laboratory test results (such as sending facility, date/time of message, patient age, sex, race/ethnicity, city, state and zip code of residence)

DC EA3 RESOURCES:

- The following Public Health Advisor to the State of Pennsylvania in CDC’s DSTDP can be contacted by jurisdictions to access materials used by the Pennsylvania Department of Public Health to begin collection of data elements from negative laboratory test results: Stephen J. Kowalewski: sjk2@cdc.gov. Jacky M Jennings, of the Johns Hopkins University School of Medicine, may also be contacted at Jennings@jhmi.edu for information about the collaborative project to access data from negative laboratory test results between multiple jurisdictions, Johns Hopkins University School of Medicine and Quest Diagnostics.

DC EA3 STLT EXAMPLES:

Data management is the next step in the STD surveillance process after data collection. Once the data elements are gathered, compiled and entered into the STD information system, they must be organized, maintained and managed. Data management activities include routine surveillance system maintenance functions such as de-duplication, as well as more sophisticated procedures such as automation of functions and matching to other registries to enhance case finding and completeness. Below is a listing of recommended foundational and enhanced activities (FA, EA) for data management that are critical to STD surveillance, as well as resources and examples from state, territorial, local and tribal (STLT) STD surveillance programs, where available.

**DATA MANAGEMENT: FOUNDATIONAL ACTIVITIES 1-6**

**DM Foundational Activity 1:** Routinely de-duplicate patients, cases and laboratory results, including de-duplication of multiple tests related to a single episode of disease

**DM FA1 RESOURCES:**

**DM Foundational Activity 2:** Routinely assess the completeness of data elements collected on case and laboratory reports

**DM FA2 RESOURCES:**
- CDC Selected STDs — Percentage of Unknown, Missing, or Invalid Values for Selected Variables by State and by Nationally Notifiable STD, 2016 [https://www.cdc.gov/std/stats16/tables/a1.htm](https://www.cdc.gov/std/stats16/tables/a1.htm)

**DM Foundational Activity 3:** Routinely perform logic checks to improve validity (e.g. date of birth compared to collection date, de-duplication malfunction because of leading spaces, or male case with cervix as site of infection)

**DM Foundational Activity 4:** Establish and maintain routine data cleaning to address data inconsistencies, missing data and appropriate case definitions
**DM Foundational Activity 5: Carry out weekly data transmissions to CDC**

**DM FA5 Resources:**

**DM Foundational Activity 6: Conduct an annual routine evaluation of the National Electronic Telecommunication System for Surveillance (NETSS) extract to ensure that reporting to CDC reflects local morbidity and/or surveillance**

**DM FA6 Resources:**

**DATA MANAGEMENT: ENHANCED ACTIVITIES 1-4**

**DM Enhanced Activity 1: Automate data management processes whenever possible (as opposed to performing tasks manually)**

**DM Enhanced Activity 2: Conduct matching of STD cases to other reported conditions (e.g. HIV, hepatitis, TB) for identification of syndemics and co-morbidity**

**DM EA2 Resources:**
- NCHHSTP Program Collaboration and Service Integration (PCSI): [https://www.cdc.gov/nchhstp/programintegration/default.htm](https://www.cdc.gov/nchhstp/programintegration/default.htm)
DM EA2 STLT EXAMPLES:


DM Enhanced Activity 3: Conduct automated matching of STD cases to other databases such as Enhanced HIV/AIDS Reporting System (eHARS), death records, clinic records, and Medicaid to ensure complete and accurate variables such as vital status, social security number, and gender

DM EA3 RESOURCES:

- Information about matching to the National Death Index available at: [https://www.cdc.gov/nchs/ndi/index.htm](https://www.cdc.gov/nchs/ndi/index.htm)

- Information about National Center for Health Statistics Data (NCHS) available at: [https://www.cdc.gov/nchs/data-linkage/index.htm](https://www.cdc.gov/nchs/data-linkage/index.htm)

DM EA3 STLT EXAMPLES:


Data Management
DM Enhanced Activity 4: Maintain a STD surveillance information system that can associate additional data (e.g. data from STD partner services, vaccine registries, etc.) with individual STD case reports

DM EA4 RESOURCES:
- See “Standards to facilitate data sharing” https://www.cdc.gov/nchhstp/programintegration/sc-standards.htm
After data have been collected and managed, the next step in the process is to analyze them and create visualizations of those analyses. Analyses can range from calculating simple trends in the number and rate of cases by demographic variables to more sophisticated network analyses or emergent outbreak detection. Below is a listing of recommended foundational and enhanced activities (FA, EA) that are critical to STD surveillance, as well as resources and examples from state, territorial, local and tribal (STLT) STD surveillance programs, where available.

**DATA ANALYSIS AND VISUALIZATION: FOUNDATIONAL ACTIVITIES 1-3**

**DAV Foundational Activity 1:** Conduct routine (i.e., weekly or monthly) analyses to determine trends in the number, distribution, and rate of reported cases by demographic variables at the jurisdiction and local levels

**DAV Foundational Activity 1 RESOURCES:**

**DAV Foundational Activity 2:** Identify significant changes in case counts by demographics and/or geography to identify outbreaks and also to help determine whether changes are related to a data collection or reporting artifact

**DAV Foundational Activity 2 RESOURCES:**

**DAV Foundational Activity 3:** Create basic charts, graphs and maps to visually display trends in number, percentage distribution, and rates of STD cases

**DAV Foundational Activity 3 RESOURCES:**
- See NCHHSTP (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention) Atlas Plus web-based data visualization platform for downloadable charts and slide sets available by state at: https://www.cdc.gov/nchhstp/atlas/
DATA ANALYSIS AND VISUALIZATION: ENHANCED ACTIVITIES 1-4

**DAV Enhanced Activity 1:** Create enhanced maps using address level geocoding or multiple sources of data such as cluster, layered, or hot spot maps

**DAV EA1 RESOURCES:**
- Map making resources related to cartography, geographic information systems (GIS), and spatial analysis: https://www.cdc.gov/dhdsp/maps/gisx/resources/map-making-resources.html
- Open source GIS software, tutorials, and tools: https://www.cdc.gov/dhdsp/maps/gisx/resources/gis-software-tools.html
- GIS training information: https://www.cdc.gov/dhdsp/maps/gisx/training/index.html

**DAV EA1 STLT EXAMPLES:**

**DAV Enhanced Activity 2:** Link case report data to additional data sources (e.g. neighborhood characteristics, social determinants of health - poverty level, percent incarceration, high school graduation rate, male-to-female ratio, DMV registry, department of corrections)

**DAV EA2 RESOURCES:**
- Sources for data on social determinants of health: https://www.cdc.gov/socialdeterminants/data/index.htm

**DAV EA2 STLT EXAMPLES:**

**DAV Enhanced Activity 3:** Conduct analyses of surveillance and partner services data to assist STD prevention programs with data-driven planning for more efficient targeting of STD prevention and care resources and services

**DAE EA3 RESOURCES:**
- See STD Preventive Services Gap Assessment Toolkit at https://www.cdc.gov/std/program/gap/default.htm
- Data-driven decision in federal government (concepts apply at various levels of decision making):

**DAV Enhanced Activity 4:** Conduct network analysis to help identify epidemic patterns and to assist STD prevention program staff with investigation of and response to outbreaks

**DAE EA4 RESOURCES:**
  *Please note that references to the Program Operations Guidelines (POGs) are mainly for historical purposes, any current guidance in development will supersed recommendations included in them.*

**DAV EA4 STLTL EXAMPLES:**
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**DATA SHARING AND DISSEMINATION (DSD)**

After the development of data analyses and related visualizations, it is crucial for the STD surveillance program to share and disseminate those findings. Activities pertaining to data sharing and dissemination refer to different methods for creation of STD surveillance data products, disseminating them, and establishing key groups to share the data products with. Reporting back data and interpretations to key stakeholders can be done in many different ways, such as the dissemination of an annual STD surveillance report, interactive web-based query and visualization platforms, and online data dashboards. Below is a listing of recommended foundational and enhanced activities (FA, EA) that are critical to STD surveillance, as well as resources and examples from state, territorial, local and tribal (STLT) STD surveillance programs, where available.

**DATA SHARING AND DISSEMINATION: FOUNDATIONAL ACTIVITIES 1-4**

**DSD Foundational Activity 1:** Routinely share, review, and discuss STD surveillance data with STD prevention program staff to direct services, develop and evaluate programs

**DSD FA1 RESOURCES:**
- Practical Use of Program Evaluation among Sexually Transmitted Disease (STD) Programs Manual available at: [https://www.cdc.gov/std/program/pupestd.htm](https://www.cdc.gov/std/program/pupestd.htm)

**DSD Foundational Activity 2:** Disseminate surveillance information to affected populations, communities, providers and key stakeholders through publication of an annual STD surveillance report

**DSD FA2 RESOURCES:**

**DSD FA2 STLT EXAMPLES:**
- Texas: [https://www.dshs.texas.gov/hivstd/reports/](https://www.dshs.texas.gov/hivstd/reports/)
- California: [https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD-Data.aspx](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD-Data.aspx)

Evaluation and Quality Improvement
**DSD Foundational Activity 3:** Respond to internal data requests from key partners and stakeholders

**DSD Foundational Activity 4:** Routinely share, review, and discuss STD surveillance data with local health departments

**DATA SHARING AND DISSEMINATION: ENHANCED ACTIVITIES 1-7**

**DSD Enhanced Activity 1:** Respond to data requests from external partners (such as researchers, students, or the general public) or data requests from key stakeholders that may be more extensive in scope

**DSD EA1 STLT EXAMPLES:**
- Mississippi State Department of Health Data Request Guidelines and Confidentiality Policy: [https://msdh.ms.gov/msdhsite/_static/resources/4453.pdf](https://msdh.ms.gov/msdhsite/_static/resources/4453.pdf)
- Mississippi State Department of Health STD/HIV Data Request Form: [https://msdh.ms.gov/msdhsite/_static/resources/4451.pdf](https://msdh.ms.gov/msdhsite/_static/resources/4451.pdf)
- Oklahoma State Department of Health HIV/STD Data Request Form: [https://www.ok.gov/health2/documents/FILLABLE%20-HIV-DataRequestFormREVISED%20July%202016.pdf](https://www.ok.gov/health2/documents/FILLABLE%20-HIV-DataRequestFormREVISED%20July%202016.pdf)

**DSD Enhanced Activity 2:** Disseminate surveillance data through web-based query and data visualization platform

**DSD EA2 STLT EXAMPLES:**
- Public Health Indicator Based Information System (IBIS), Utah: [https://ibis.health.utah.gov/](https://ibis.health.utah.gov/)

**DSD Enhanced Activity 3:** Contribute to county and neighborhood health profiles

**DSD EA3 STLT EXAMPLES:**
**DSD Enhanced Activity 4:** Create an online STD data dashboard to provide summary data to local jurisdictions and the public

**DSD EA4 STLT EXAMPLES:**

**DSD Enhanced Activity 5:** Create quarterly surveillance reports and disseminate to local jurisdictions, affected populations, communities, providers and key stakeholders

**DSD EA5 STLT EXAMPLES:**

**DSD Enhanced Activity 6:** Create supplemental STD surveillance reports or fact sheets to highlight population or study-specific data beyond the scope of an annual STD surveillance report

**DSD EA6 STLT EXAMPLES:**

**DSD Enhanced Activity 7:** Create infographics for the general public to enhance understanding of STD data

Evaluation and Quality Improvement
Like policy and infrastructure, evaluation and quality improvement is an overarching framework category that pertains to the other categories of: data collection, data management, data analysis and visualization, and data sharing and dissemination. STD surveillance functions need to be evaluated periodically to identify areas in need of quality improvement. Performance of STD surveillance systems may be evaluated through assessment of completeness, timeliness, and validity, or by other means. Quality improvement efforts may range from developing initiatives to improve completeness, timeliness and validity, or may be more generally directed efforts for staff training, support and evaluation, or participation in national forums. Below is a listing of recommended foundational and enhanced activities (FA, EA) that are critical to STD surveillance, as well as resources and examples from state, territorial, local and tribal (STLT) STD surveillance programs, where available.

**EVALUATION AND QUALITY IMPROVEMENT: FOUNDATIONAL ACTIVITIES 1-4**

**EQI Foundational Activity 1:** Develop, conduct, and document quality assurance procedures to monitor and improve completeness of case report data

**EQI FA1 RESOURCES:**

**EQI Foundational Activity 2:** Develop, conduct, and document quality assurance procedures to monitor and improve timeliness of data submission from providers to health departments and from health departments to CDC

**EQI FA2 RESOURCES:**
- See section d.2.h timeliness in Updated Guidelines for Evaluating Public Health Surveillance Systems, Recommendations from the Guidelines Working Group available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5013a1.htm

**EQI FA2 STLT EXAMPLES:**
EQI Foundational Activity 3: Develop, conduct, and document quality assurance procedures to monitor and improve accuracy of de-duplication methods

EQI Foundational Activity 4: Follow up with providers and laboratories to improve completeness of reporting

EVALUATION AND QUALITY IMPROVEMENT: ENHANCED ACTIVITIES 1-3

EQI Enhanced Activity 1: Evaluate attributes of surveillance program to identify areas for quality improvement activities

EQI EA1 RESOURCES:
- Updated Guidelines for Evaluating Public Health Surveillance Systems, Recommendations from the Guidelines Working Group: [https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5013a1.htm](https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5013a1.htm)

EQI EA1 STLT EXAMPLES:
**EQI Enhanced Activity 2: Engage in staff training, support and evaluation**

**EQI EA2 RESOURCES:**
- Information about self-directed and STD-focused SAS Instruction (SASSI) available at: https://www.cdc.gov/std/sassi/default.htm
- Information about STD Prevention Courses available at: https://www.cdc.gov/std/training/courses.htm
- Information about Performance Improvement Managers Network (PIM Network) https://www.cdc.gov/stltpublichealth/pimnetwork/

**EQI Enhanced Activity 3: Participate in national and local forums for collaboration, idea sharing, problem solving, and support**

**EQI EA3 RESOURCES:**
- Information about the activities of the CSTE STD Subcommittee and how to participate available at: http://www.cste.org/group/STD. For more information about the CSTE STD Subcommittee, including quarterly call access information and schedule, please contact Ashley Vineyard at avineyard@cste.org
- Information about the activities of the National Prevention Information Network and how to participate available at: https://npin.cdc.gov/
- Information about the activities of the National Coalition of STD directors (NCSD) and how to participate available at: http://www.ncsddc.org/
Discussion:

Resources of STLT examples exist for most STD surveillance activities and none of the six framework categories are completely lacking supporting resources. However, some materials, such as the Program Operations Guidelines (POGs), are outdated and gaps do exist.

Below is a description of the information gaps that currently exist. Foundational and enhanced activities lacking supporting resources as of June 25, 2018 are identified by framework category. After review of this guidance by the full membership of the CSTE STD Subcommittee and additional representatives from STLT agencies, it is likely that more resources and STLT examples will be submitted for inclusion, possibly necessitating a reassessment of resource gaps.

Policy and Infrastructure:

Of the seven foundational policy and infrastructure activities, two are lacking supporting resources or STLT examples: foundational activity 5) Create and maintain a comprehensive STD surveillance system user manual; and foundational activity 6) Maintain written protocols and procedures for conducting all surveillance processes. Both enhanced policy and infrastructure activities have either supporting resources or STLT examples.

Data Collection:

All five foundational and three enhanced data collection activities have either supporting resources or STLT examples.

Data Management:

Two of the six foundational data management activities are lacking supporting resources or STLT examples, foundational activity 3) Routinely perform logic checks to improve validity; and foundational activity 4) Establish and maintain routine data cleaning to address data inconsistencies, missing data and appropriate case definitions. Of the four enhanced activities, one is lacking resources or STLT examples: enhanced activity 1) Automate data management processes whenever possible.

Data Analysis and Visualization:

All three foundational and four enhanced data analysis and visualization activities have either supporting resources or STLT examples.

Data Sharing and Dissemination:

Two of the four foundational data sharing and dissemination activities are lacking supporting resources: foundational activity 3) Respond to internal data requests from key partners and stakeholders; and foundational activity 4) Routinely share, review and discuss STD surveillance
data with sub-jurisdiction health departments. All seven enhanced activities have supporting resources or STLT examples.

**Evaluation and Quality Improvement:**

One of the four foundational evaluation and quality improvement activities is lacking supporting resources or STLT examples: foundational activity 4) Follow up with providers and laboratories to improve completeness of reporting. All three enhanced evaluation and quality improvement activities have supporting resources to assist state and local health departments in their implementation.

**Recommendations**

- CSTE and CDC should consult with representatives from STLT STD surveillance programs to prioritize which technical assistance gaps identified by this framework are most crucial to fill first.
- DSTDP staff might wish to consult technical guidance developed by other federal communicable disease surveillance programs such as HIV surveillance to assist with developing additional technical assistance materials. For example, during the key informant interview process it was noted by one of the integrated STD/HIV surveillance program coordinators that a need exists for technical guidance for STD surveillance similar to that available for HIV surveillance (See HIV Surveillance Guidelines available at: [https://www.cdc.gov/hiv/guidelines/reporting.html](https://www.cdc.gov/hiv/guidelines/reporting.html)). Additionally, other programs that conducted both STD and HIV surveillance recommended that there should be a standardized STD data information system used by all states, similar to eHARS for HIV surveillance. Other programs recommended a standardized case report form for STD surveillance, such as that available for HIV case reporting (See HIV and Perinatal HIV Exposure Reporting Case Report Forms available at: [https://www.cdc.gov/hiv/guidelines/reporting.html](https://www.cdc.gov/hiv/guidelines/reporting.html)).