

Service Area Plan

Department of Health

Disease Investigation and Control Services (40505)

Service Area Background Information

Service Area Description

Disease Investigation and Control Services works to detect, assess, and control the spread of various communicable diseases. This service area focuses on approximately 50 different diseases of public health importance, including diarrheal diseases, hepatitis, meningitis, rabies, and vector-borne diseases (such as Lyme disease and West Nile Virus). Disease surveillance contains a variety of components, such as the following:

- Receiving reports from physicians, hospitals, and laboratories about people possibly diagnosed with a communicable disease of public health importance;
- Monitoring for the occurrence of disease in mosquitoes, birds, other animals, or contamination in the environment that could potentially lead to illness in humans;
- Tracking trends in daily utilization of medical care by reviewing data from emergency departments, provider claims, and pharmaceutical sales to detect unusual occurrences of disease;
- Compiling statistics to identify trends and patterns in disease activity in order to detect outbreaks or other disease events and producing reports summarizing disease activity data;
- Disease consultation and policy development to provide recommendations regarding interventions that can be implemented to interrupt the spread of disease;
- Outbreak investigations to identify the source of an outbreak and prevent other people from being exposed to the source; and
- Monitoring for and responding to emerging infections and terrorism-related illnesses.

Service Area Alignment to Mission

This service area directly aligns with the mission of the Virginia Department of Health to promote and protect the health of Virginians by preventing the spread of communicable diseases.

Service Area Statutory Authority

- Chapter 2 of Title 32.1 of the Code of Virginia pertains to the reporting and control of diseases.
 - § 32.1-35 requires the Board of Health to establish a list of diseases that must be reported to the health department. §§ 32.1-36 and 32.1-37 require physicians, laboratories, and persons in charge of medical care facilities, school, or summer camps to report diseases to the health department.
 - § 32.1-39 requires the Department to provide for surveillance and investigation of preventable diseases and epidemics, including outbreak investigations.
 - Articles 3, 3.01, and 3.1 of Chapter 2 address disease control measures that may be implemented, including quarantine, isolation of persons with communicable diseases, and control of rabies.

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Service Area Customer Base

Customer(s)	Served	Potential
Acute care hospitals	94	94
All citizens of the Commonwealth, especially those diagnosed with or interested in learning more about a communicable disease.	2,500	7,400,000
Day Car Centers experiencing an outbreak	50	4,438
Jails and Prisons experiencing an outbreak	5	121
Laboratories	110	183
Legislators	140	140
Local Governments	135	135
Local Health Departments	119	119
Nursing Facilities and Assisted Living Facilities	605	605
Physicians	21,000	21,000
Schools experiencing an outbreak	10	1,846
Universities and Colleges experiencing an outbreak	5	39
Veterinarians	3,500	3,500

Anticipated Changes In Service Area Customer Base

- A large scale outbreak, act of terrorism involving a biological, chemical, or radiological agent, or other public health emergency could greatly increase the numbers of people affected and the scale of the response required from the service area staff.
- The emergence of a new, naturally occurring disease could have unanticipated effects on the numbers of customers and work of the staff.
- Increased interactions with medical care providers across the state could lead to an increase in disease reports received, thereby increasing the customer base and the response required from staff.

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Service Area Products and Services

- Disease control policies and procedures for each disease, contained in the Virginia Disease Control Manual.
- Databases and other tools for conducting disease surveillance.
- Disease statistics posted on the web site and published in the Disease Surveillance Annual Report.
- Virginia Epidemiology Bulletin, a monthly newsletter posted on the web and mailed to every physician licensed to practice medicine in Virginia.
- Disease-specific emergency response plans and other guidance materials posted on the VDH web site. For example, specific plans have been produced for smallpox, severe acute respiratory syndrome (SARS), monkeypox, and pandemic influenza.
- Consultation services to local health departments and private practitioners.
- Training to ensure consistency of disease reporting and control operations.
- Monitoring and issuing advisories for environmental exposures, such as marine beach waters.
- Regulatory and legislative documents and testimony.
- Press releases and brochures to inform the public about reportable and emerging diseases.
- Informational notices to local health departments and other medical care partners about new diseases occurring that have the potential to affect the health of Virginia's citizens. (This has occurred with SARS, monkeypox, and anthrax, for example).
- Grant management and statewide program review and oversight.

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Factors Impacting Service Area Products and Services

- Factors that adversely affect the living standards of people, including those that lead to crowded living arrangements or that impact access to health insurance and medical care, can impact the services provided by this service area because those factors tend to increase the risk of communicable disease.
- Increasing foreign travel (and adventure travel) by citizens of the Commonwealth and increasing tourism visitors from other countries can affect the services, too, by exposing people to diseases that are common in other parts of the world that are not usually seen here.
- Some changes in food importation practices and changes in eating habits in American society affect the occurrence of disease. People tend to eat out more often now than they have in the past, and more people eat imported foods. Such activities could potentially impact the chances of exposure to contaminated food items that may cause illness. More and more, health departments across the US are investigating outbreaks that are due to a food item that has been widely distributed to multiple states rather than localized outbreaks.
- Another factor that may affect this service area is the overuse and misuse of antibiotics. This practice can lead to increasing antibiotic resistance of microorganisms and result in outbreaks of infections that are difficult to treat.
- Concerns and plans for acts of bioterrorism and/or actual acts of bioterrorism have greatly increased the demand on this service area, which is involved with preparing for the appropriate response to such events.
- Involvement with terrorism preparedness planning has changed the work practices of the service area by requiring increased interactions with partner agencies and organizations that are involved in emergency preparedness planning. For example, public health disease investigators now need to coordinate efforts with law enforcement and homeland security officials.

Anticipated Changes To Service Area Products and Services

- More interstate coordination of investigations
- Greater focus on emergency preparedness
- Greater need for services to be ethnically and linguistically diverse
- Greater emphasis on emerging and exotic infections
- Increasing emphasis on chain of custody to meet the needs of law enforcement in outbreak investigations
- Greater likelihood of invoking powers of isolation and quarantine

Service Area Financial Summary

This service area receives state general fund dollars for general epidemiologic services and for terrorism preparedness. In addition, federal funds are awarded from the Centers for Disease Control and Prevention's Epidemiology and Laboratory Capacity Program and Expanding Existing Surveillance to include Pfiesteria, Other Harmful Algal Blooms, and Marine Toxins. The Environmental Protection Agency also supplies federal funds from the Beach Monitoring and Notification program.

	<u>Fiscal Year 2007</u>		<u>Fiscal Year 2008</u>	
	<u>General Fund</u>	<u>Nongeneral Fund</u>	<u>General Fund</u>	<u>Nongeneral Fund</u>
Base Budget	\$1,486,485	\$2,302,141	\$1,486,485	\$2,302,141
Changes To Base	\$65,788	\$27,524	\$65,788	\$27,524
SERVICE AREA TOTAL	\$1,552,273	\$2,329,665	\$1,552,273	\$2,329,665

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Service Area Objectives, Measures, and Strategies

Objective 40505.01

Provide timely and appropriate coordination of disease investigation and control activities statewide

Health department staff in this service area provide guidance primarily to local health departments but also to health care providers and the public regarding recommended methods to follow to investigate reports of a variety of communicable diseases. The guidance may be in the form of consultation over the telephone, written disease-specific materials, or on-site assistance with investigations.

This Objective Supports the Following Agency Goals:

- Prevent and control the transmission of communicable diseases.
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- Promote systems, policies and practices that facilitate improved health for all Virginians.
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This Objective Has The Following Measure(s):

- **Measure 40505.01.01**

Number of disease-specific plans and guidance documents developed or updated each year and made available on the agency's internal web site.

Measure Type: Output

Measure Frequency: Annually

Measure Baseline: As of June 2005, 9 plans were available. A guidebook has been written for communicable diseases of public health threat. Guidance documents have been written for 6 Category A agents, 2 Category B agents, and recommendations for 66 reportable diseases.

Measure Target: By June 2007, review and revise 4 plans, the guidebook for communicable diseases of public health threat, and 6 reportable diseases/conditions. Create a new plan. Produce guidance documents for 3 additional Category B agents and six chemical agents.

Measure Source and Calculation:

The medical epidemiologist and a senior epidemiologist maintain logs documenting progress on the development of plans and disease guidance materials. The logs will be reviewed annually to tally progress.

Objective 40505.01 Has the Following Strategies:

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- Issue current and comprehensive documents on the public health response to diseases of public health significance.
 - The Emergency Preparedness and Response Technical Review committee will continue to meet at least three times per month to review and revise draft documents on specific diseases.
 - The medical epidemiologist will continue to coordinate revisions of the Disease Control Manual, gathering subject matter input for each chapter.
 - Management review of the documents will ensure that documents are thorough and practical for guiding public health response to the diseases.
 - Final documents produced will be added to the EP&R and/or Epidemiology web site(s).
 - Provide timely and appropriate consultation about individual cases and outbreaks.
 - All professional staff carry pagers and cell phones and rotate duty with a statewide emergency telephone so that they are available for consultation on a 24/7 basis.
- Provide meaningful training for VDH staff to ensure consistent methods are used to respond to disease situations.
 - Hold a statewide field epidemiology seminar.
 - Host an epidemiology training session before or after the seminar, addressing pertinent disease topics for public health staff.
 - Continue to hold monthly epidemiology conference calls for public health staff.
 - Provide training for health department staff on the epidemiologic response to public health emergencies.
 - Request input from district health departments regarding epidemiologic training needs and develop training programs to meet those needs to the extent possible.
- Communicate timely and appropriate information about the occurrence of disease and ways to minimize disease occurrence.

Objective 40505.02

Conduct comprehensive surveillance for communicable diseases of public health significance.

Disease surveillance is conducted to detect trends and patterns in disease occurrence in order to (1) identify populations at risk for disease and intervene to minimize the spread of disease to the extent possible and (2) detect outbreaks and other public health emergencies that require response on the part of public health staff to locate the source of the outbreak and prevent its spread or recurrence.

This Objective Supports the Following Agency Goals:

- Prevent and control the transmission of communicable diseases.
 - (By detecting unusual occurrences of disease, the health department can organize resources to better understand the causes of increased disease activity and intervene to prevent additional illness.)
- Promote systems, policies and practices that facilitate improved health for all Virginians.
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This Objective Has The Following Measure(s):

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- **Measure 40505.02.01**

Number of agency staff regularly using the National Electronic Disease Surveillance System (NEDSS) to manage data on the occurrence of reportable diseases.

Measure Type: Output **Measure Frequency:** Annually

Measure Baseline: In June 2005, eight staff were registered to use the NEDSS system. This increased to 22 by May, 2006. These were staff of the Divisions of Surveillance and Investigation and Immunization in the central office.

Measure Target: 100 registered users will be registered from both the central office and district health departments by end of FY07.

Measure Source and Calculation:

NEDSS users are registered with the Division of Surveillance and Investigation and assigned access privileges to the system. The Division will count the number of users registered, trained, and actively using the system.

- **Measure 40505.02.02**

Number of healthcare entities submitting data to the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) system daily

Measure Type: Output **Measure Frequency:** Annually

Measure Baseline: In June 2005, 15 hospitals from the northern and eastern regions submitted daily data files to VDH for inclusion in the ESSENCE system.

Measure Target: 50 healthcare entities, with representation from all five health planning regions, will submit daily data files by end of FY07.

Measure Source and Calculation:

Each day, staff of the Division of Surveillance and Investigation can determine which hospitals and other facilities have submitted data to the system. The Division will count the number of healthcare entities submitting data.

Objective 40505.02 Has the Following Strategies:

- Roll out the NEDSS system to health department staff by region, beginning with the northern region.
 - Ensure users are properly trained on the use of the system and have access to help and support at the central office.
 - Enroll users in a way that ensures appropriate privileges are assigned and accountability can be maintained.
 - Continue to ensure that activities occur across the state that reinforce the importance of disease reporting by healthcare providers, particularly the rapid reporting of certain designated communicable diseases.
- Work with health districts to determine the best way to finalize agreements with hospitals to participate in the system.
 - Once hospital agreements are signed, ensure that the information technology aspects of the data exchange are worked out in a timely manner.
 - Target sentinel facilities in the northwest and southwest regions to participate in the system.
 - Ensure VDH staff are enrolled and appropriately trained to use the system.

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- Standardize and improve the quality of data in existing systems.
 - Conduct and coordinate environmental monitoring (e.g., beaches and other recreational waters).
 - Conduct and coordinate surveillance among insects and animals for signs of disease that may potentially be spread to humans.
 - Provide information from these systems to local health departments and the public as appropriate.
 - Ensure that alerts are disseminated whenever these monitoring systems indicate a threat to human health.
 - Coordinate activities with external partners, such as the Department of Environmental Quality and the Department of Agriculture and Consumer Services.
 - Explore the feasibility of conducting additional environmental monitoring.
- Communicate timely and appropriate information about the occurrence of disease and ways to minimize disease occurrence.