



LORD FAIRFAX HEALTH DISTRICT

*Serving the Counties of Clarke, Frederick, Page, Shenandoah, Warren
and the City of Winchester*

2015 Communicable Disease Report





**Lord Fairfax Health District
2015 Communicable Disease Report**

Dear Colleague:

Welcome to the annual Communicable Disease Report from the Lord Fairfax Health District (LFHD). District employees investigate hundreds of reports of suspected communicable diseases each year. This report presents the results of those investigations and highlights the reportable diseases that most affected the LFHD in 2015.

In addition to communicable disease data, the report also describes LFHD communicable disease services and offers practical guidance for clinicians to help mitigate the future impact of these diseases.

I would like to thank all community partners including healthcare providers, infection control practitioners, laboratorians, and public safety personnel who report cases to LFHD. In addition, I want to acknowledge the hard work and dedication of the LFHD employees who investigate and control communicable disease, sexually transmitted infection, and tuberculosis.

As you may know, Charles Devine, III, retired as health director for LFHD effective August 1, 2016. We are grateful for his dedicated service to improving the health of this community, and we all wish him the best in his next endeavors. I also wish to welcome Meredith Davis, our new District Epidemiologist. Meredith is available to assist you with any communicable disease issue and can be reached by phone 540-722-3470, x143 or by email at Meredith.davis@vdh.virginia.gov.

Sincerely,

David Goodfriend, MD
Interim Director, Lord Fairfax Health District

Table of Contents

Disease Summary	3
Foodborne Illness.....	5
Pertussis.....	6
Rabies.....	7
Chlamydia.....	8
Lyme Disease.....	9
Influenza.....	10
Outbreak Summary.....	11
Contact Information.....	12
VA Reportable Disease List.....	13
Confidential Morbidity Report.....	14

**2015 LFHD Population
Estimates***

Clarke County	14,206
Frederick County	82,623
Page County	23,719
Shenandoah County	42,228
Warren County	38,829
Winchester City	27,515
TOTAL	229,120

*Weldon Cooper Center for Public Service:
<http://www.coopercenter.org/demographics/virginia-population-estimates>

Communicable Disease Summary

In 2015, the LFHD investigated 1,103 cases of communicable disease (Table 1). The counts represent cases meeting surveillance case definitions (clinical and/or laboratory criteria).

Table 1: Reported cases of selected diseases, Lord Fairfax Health District, 2011-2015.

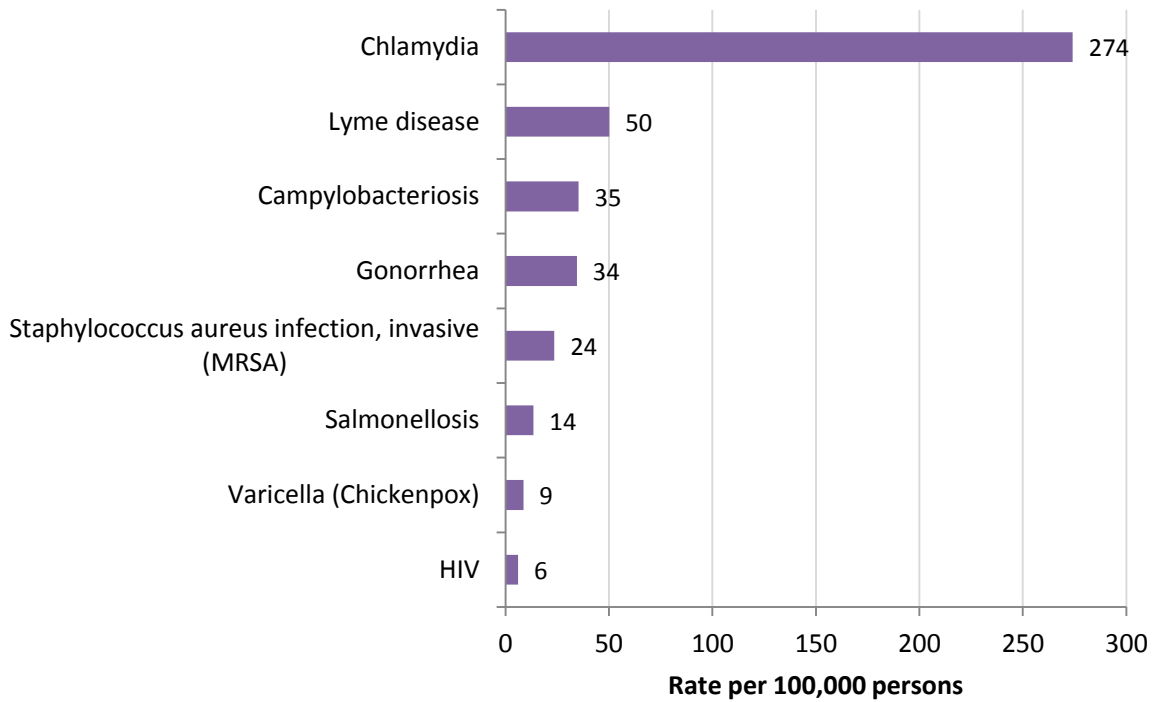
Disease	2011	2012	2013	2014	2015 ^α	5-Year Average
Arboviral (other than West Nile Virus)	0	0	2	3	0	1
Botulism, infant	0	0	1	0	1	0.4
Brucellosis	0	0	0	1	0	0.2
Campylobacteriosis	45	45	60	59	81	58
Chagas disease	0	0	0	0	1	0.2
<i>Chlamydia trachomatis</i> infection	610	797	680	631	628	669.2
Cryptosporidiosis	6	2	0	1	4	2.6
Cyclosporiasis	0	0	1	0	1	0.4
<i>E. coli</i> infection, shiga toxin-producing	8	8	8	12	6	8.4
Ehrlichiosis/Anaplasmosis	9	11	1	6	4	6.2
Giardiasis	7	7	6	9	6	7
Gonorrhea	42	85	99	69	79	74.8
<i>Haemophilus influenzae</i> , invasive	6	4	8	5	6	5.8
Hepatitis A, acute	2	4	2	2	2	2.4
Hepatitis B, acute	3	3	4	2	1	2.6
Hepatitis C, acute	2	9	4	4	3	4.4
HIV	14	5	9	8	14	10
Lead, elevated levels*	4	8	10	3	2	5.4
Legionellosis	5	6	3	2	6	4.4
Lyme disease	121	141	111	108	115	119.2
Malaria	3	1	0	0	0	0.8
Meningococcal disease (<i>N. meningitidis</i>)	1	0	0	0	0	0.2
Pertussis	9	26	8	43	9	19
Q Fever	0	0	1	1	0	0.4
Salmonellosis	25	37	37	49	31	35.8
Shigellosis	5	1	1	1	5	2.6
Spotted fever rickettsiosis (including RMSF)	10	9	14	15	7	11
<i>Staph. aureus</i> infection, invasive (MRSA)	25	36	34	32	54	36.2
Streptococcus, Group A, invasive	9	9	7	18	10	10.6
<i>Streptococcus pneumoniae</i> , invasive (age < 5)	1	1	3	0	0	1
Syphilis, early stage	2	0	0	4	5	2.2
Tuberculosis	1	2	2	2	1	1.6
Varicella (Chickenpox)	45	26	19	14	20	24.8
Vibriosis, non-cholera	2	1	0	0	1	0.8
West Nile infection	0	4	0	0	0	0.8
Yersiniosis	0	0	0	2	0	0.4
Total	1022	1288	1135	1106	1103	980.4

*All data are primary surveillance data from the Lord Fairfax Health District and the VDH; ^α2015 data are provisional.

Most Common Communicable Diseases

Understanding the most commonly occurring communicable diseases is helpful to determine public health priorities and develop effective health promotion interventions. Figure 1 shows the eight most common communicable diseases in Lord Fairfax Health District in 2015.

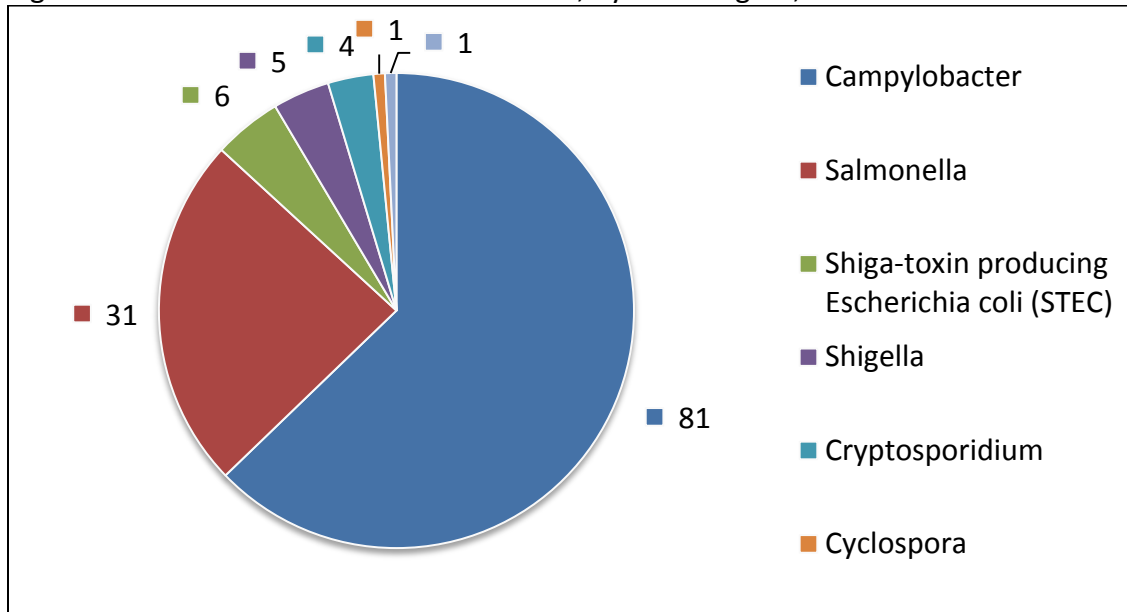
Figure 1. Rates of most frequently reported communicable disease, Lord Fairfax Health District, 2015.



Foodborne Illness

The Centers for Disease Control and Prevention (CDC) estimates that 1 in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases each year.¹ The Foodborne Diseases Active Surveillance Network (FoodNet) conducts surveillance for bacterial infections caused by *Campylobacter*, *Cryptosporidium*, *Cyclospora*, *Listeria*, *Salmonella*, Shiga toxin-producing *Escherichia coli* (STEC), *Shigella*, *Vibrio*, and *Yersinia*. Figure 2 shows the number of confirmed cases of illness causes by FoodNet agents in LFHD in 2015. As noted, *Campylobacter* was the most commonly identified agent, followed by *Salmonella*.

Figure 2. Number of foodborne illness cases, by causal agent, Lord Fairfax Health District, 2015.



For Healthcare Providers

If a foodborne illness is suspected, conduct confirmatory testing whenever possible. All positive isolates from stool specimens are forwarded by local laboratories to the state laboratory (DCLS) for confirmatory testing. LFHD uses this information to identify outbreaks of foodborne illness.

Lord Fairfax Health District Services

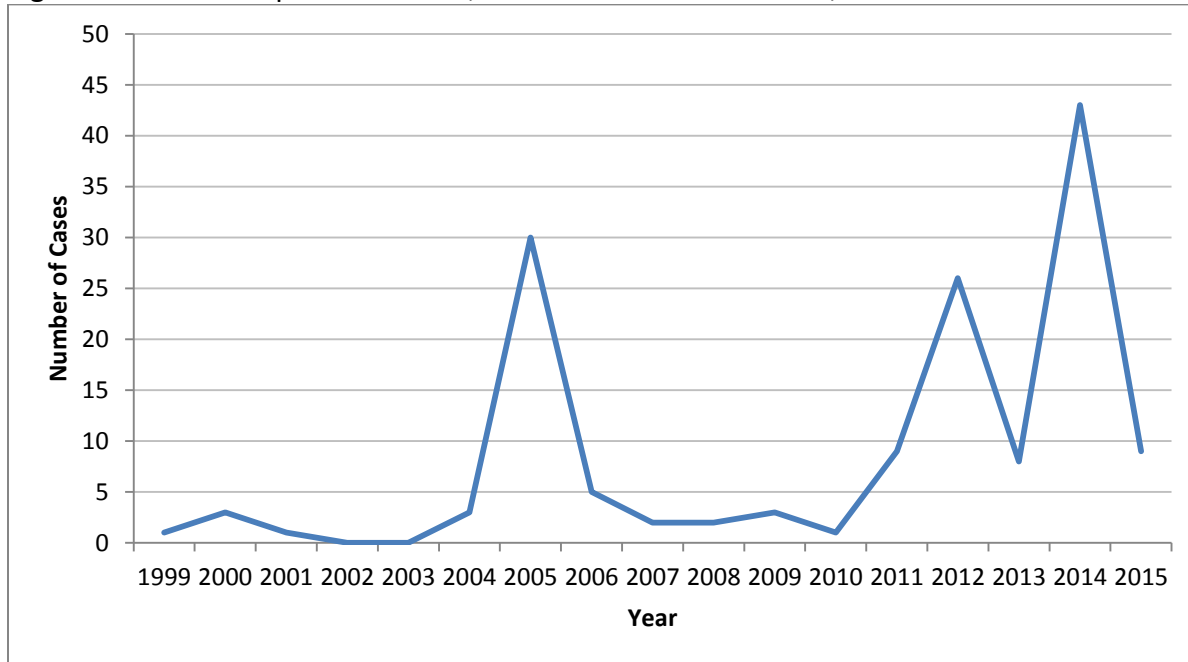
- Investigate each reported case of a foodborne illness. During the investigation, LFHD will provide prevention information, identify potential sources of infection, and recommend control measure to prevent further disease transmission.
- Inspect facilities, including restaurants, when indicated during an investigation.

¹ CDC. Incidence and trends of infections with pathogens transmitted commonly through food – foodborne diseases active surveillance network, 10 U.S. sites, 2006-2013. MMWR Weekly. 63(15);328-332.
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6315a3.htm>

Pertussis

Pertussis, or whooping cough, is a respiratory disease caused by the bacterium *Bordetella pertussis*. Pertussis is highly contagious, and has been shown to cause outbreaks, even among vaccinated populations, as immunity wanes over time. As shown in Figure 3, LFHD experienced pertussis outbreaks in 2005, 2012, and 2014. There were 9 cases in 2015.

Figure 3. Number of pertussis cases, Lord Fairfax Health District, 2008-2015.



Prevention

The Advisory Committee on Immunization Practices (ACIP) recommends a four-dose primary series of DTaP, administered at 2, 4, 6 and 15–18 months of age, followed by a fifth booster dose given at 4–6 years. Preteens (11-12 years) should receive a dose of Tdap, as should teens and adults who did not receive a dose as a preteen. Pregnant women should receive a dose of Tdap during each pregnancy, preferably during the third trimester, to confer protection on their baby.

For Healthcare Providers

- Promote vaccination by ensuring that patients are fully vaccinated against pertussis according to the Advisory Committee Immunization Practices (ACIP) Guidelines.
- Ensure that ALL staff are immunized with Tdap.
- Report suspected cases of pertussis to LFHD as soon as the case is suspected. This allows the LFHD to follow up on cases, to identify high-risk contact, and to recommend prophylaxis to those that need it to protect them from the disease.

Lord Fairfax Health District Services

- LFHD offers free Tdap vaccine to those 19 years of age and older, and per school requirements.

Rabies

Rabies is a preventable viral disease affecting the central nervous system, causing brain disease and death. Most reported cases in the U.S. occur in wild animals like raccoons, skunks, and bats. The virus is transmitted to humans through the saliva of an infected animal. The number of reported human rabies cases averages two to three per year in the U.S.; Virginia has had only one human rabies case in the last decade. Vaccination of domestic pets, especially dogs, is largely responsible for rabies control in the U.S. In addition, an effective vaccine is available and can be used for post-exposure prophylaxis (PEP) after a possible rabies exposure.

LFHD received reports of 950 human exposures to potentially rabid animals in 2015, of which 930 occurred within LFHD’s jurisdiction (Table 2). Of those, 75 people (about 8%) received PEP. Most cases did not receive PEP because: 1) the biting animal was domestic and could be observed for 10 days to rule out the possibility transmission, or 2) the animal was wild or feral and was captured, euthanized, and tested.

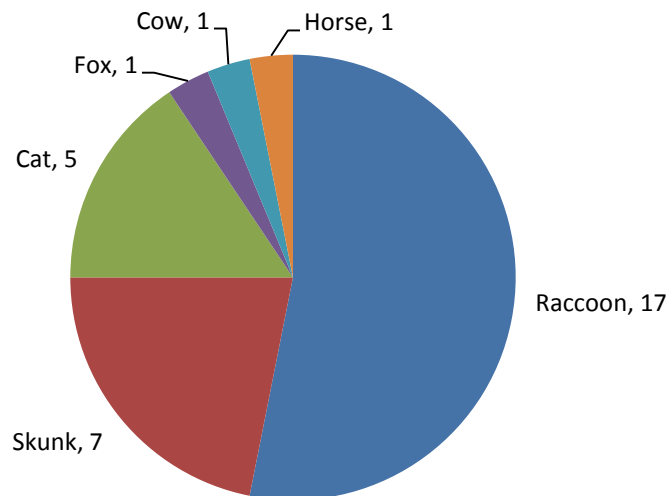
County	Pre-Exposure	Post-Exposure*	Bites Reported
Clarke	2	8	55
Frederick/Winchester	0	29	409
Page	1	14	98
Shenandoah	6	8	142
Warren	0	16	226
Total	9	75	930

* Includes 2 cases in which PEP was suspended and 1 case in which PEP was recommended but not confirmed.

In 2015, LFHD tested 200 animals for rabies; 32 were positive. Of these, 17 were raccoons, 7 were skunks, 5 were cats, and the rest were other species (Figure 4).

Rabies Exposure Definition
 Any bite, scratch, or other situation where saliva or central nervous system tissue or CSF from a potentially rabid animal enters a fresh, open wound or contacts a mucous membrane by entering the eye, mouth, or nose.

Figure 4. Positive animal rabies, by species, LFHD, 2015.



For Healthcare Providers

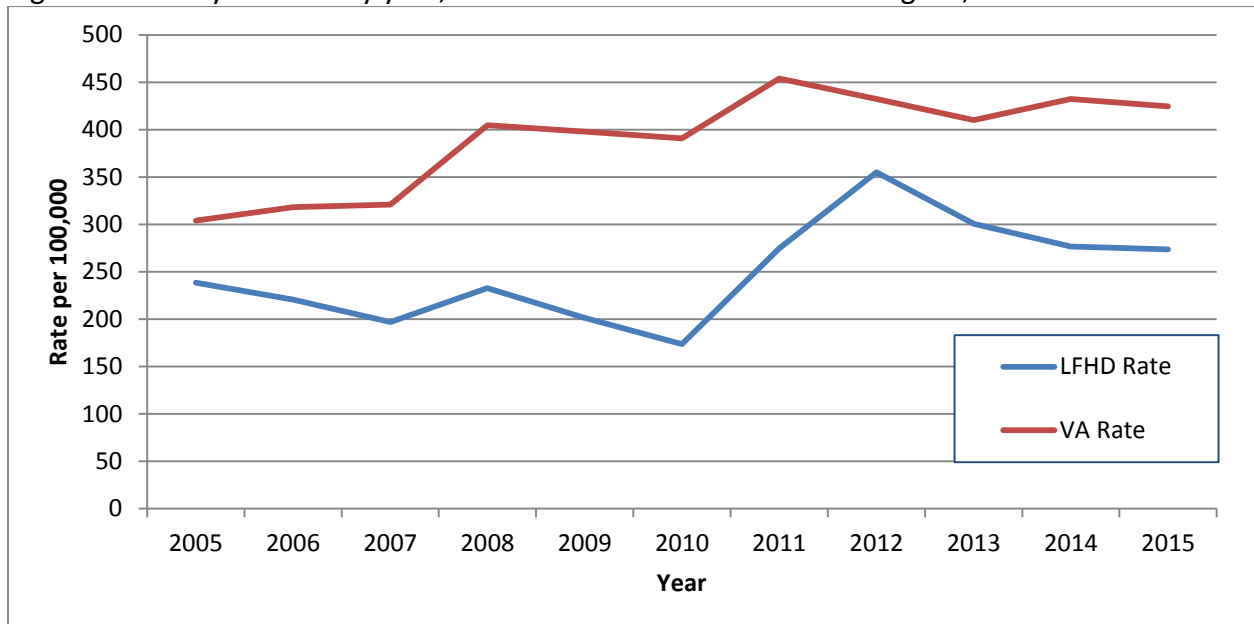
- All exposures should be reported immediately to your local health department.
- Not all individuals exposed to a potentially rabid animal will need PEP. If the animal is located, PEP should be delayed pending the outcome of testing or confinement.
- When feasible, the full dose of RIG should be infiltrated into and around the wound.
- PEP administration should be reported to LFHD using the VDH Morbidity Report.

Chlamydia

Chlamydia, the disease caused by *C. trachomatis* infection, is the most commonly reported notifiable disease in the U.S. In 2014, there were 1.4 million cases of chlamydia in the U.S., a rate of 456 cases per 100,000 people.² Chlamydia's public health importance results primarily from its association with pelvic inflammatory disease, or PID, which causes infertility, ectopic pregnancy, and pelvic pain. Since reporting began in 1994, chlamydia rates have increased steadily.

Although the chlamydia incidence rate in LFHD has slightly increased over the last decade, it still remains well below the rate for the rest of Virginia (Figure 5).

Figure 5. Chlamydia rates by year, Lord Fairfax Health District and Virginia, 2008-2015.



For Healthcare Providers

- The CDC recommends that all sexually active women aged ≤ 25 years and older women with risk factors should receive annual screening for chlamydia.
- Screening of sexually active men should be considered in areas with a high prevalence of chlamydia.
- Sexual partners of those diagnosed with chlamydia should be seen for evaluation, testing and treatment. If the partner is not enrolled in your practice, please refer them to their private physician or to their local health department.

Lord Fairfax Health District Services

- Testing for chlamydia is available at local health departments in LFHD.
- Please call the local health department (see page 12) for hours and appointments.

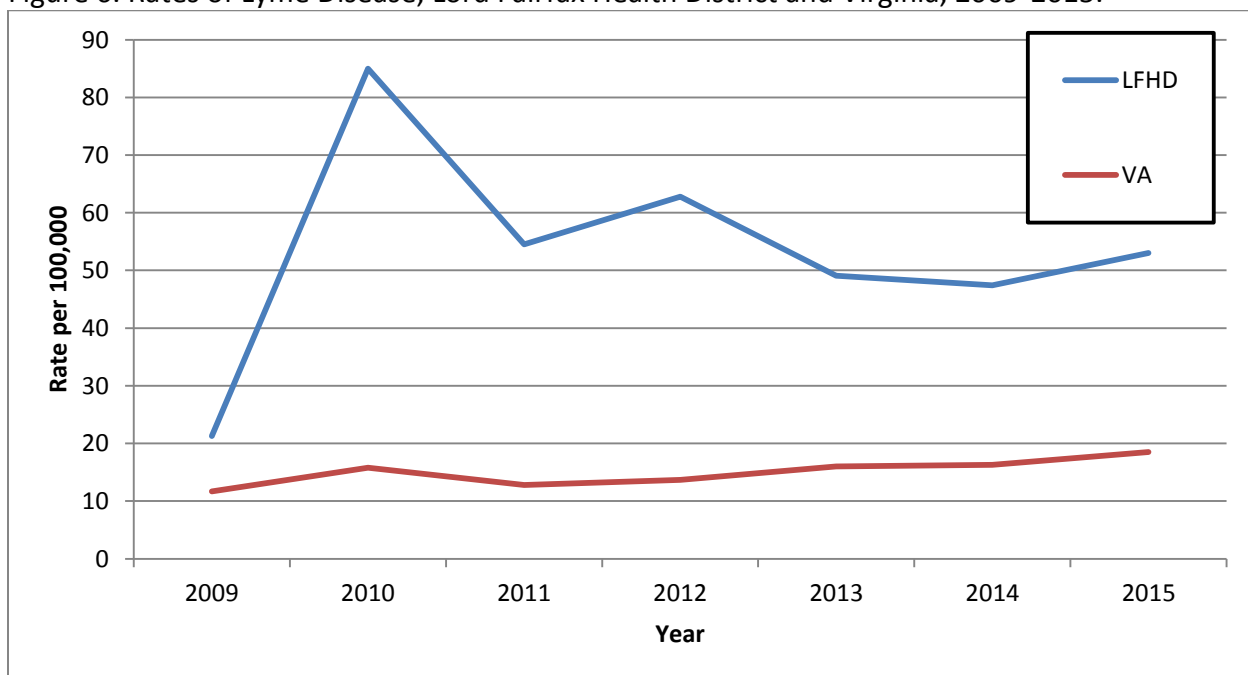
² CDC. Reported STDs in the United States. <http://www.cdc.gov/std/stats14/std-trends-508.pdf>. Accessed September 19, 2016.

Lyme and other Tickborne Diseases

Tickborne diseases in Virginia include Lyme disease, Rocky Mountain Spotted Fever (RMSF), ehrlichiosis and anaplasmosis. Lyme disease is the most commonly reported tickborne illness in the United States; in 2014, it was the 5th most common nationally notifiable disease. However this disease does **not** occur nationwide and is concentrated heavily in the northeast and upper Midwest. In 2014, 96% of Lyme disease cases were reported from 14 states, including Virginia.³

As shown in Figure 6, rates of Lyme disease are notably higher in Lord Fairfax Health District than in Virginia overall. Lyme disease is endemic in all counties of the district. In 2015, there were 7 cases of RMSF, 4 cases of ehrlichiosis and anaplasmosis in the LFHD.

Figure 6. Rates of Lyme Disease, Lord Fairfax Health District and Virginia, 2009-2015.



For Healthcare Providers

- Consider tickborne infections in patients with febrile illness during warm weather months. Most patients treated early with antibiotics quickly recover.
- Report all suspected cases of Lyme, Rocky Mountain Spotted Fever, ehrlichiosis and anaplasmosis to your local health department. Contact information is found at the end of this report.
- Testing for Lyme disease is a two-step process:
 - 1) **EIA** (enzyme immunoassay) or **IFA** (indirect immunofluorescence assay), **AND**;
 - 2) If EIA is positive or equivocal, **Western Blot IgM** serology should be performed.

³ CDC. Lyme disease website. <http://www.cdc.gov/lyme/stats/index.html>. Accessed September 19, 2016.

Influenza (Flu)

According to the Centers for Disease Control and Prevention (CDC), the 2015-2016 influenza season occurred later and was less severe compared to the previous three seasons. Peak activity in the U.S. occurred during the week ending March 12, 2016 (MMWR Week 10). The highest percentage of outpatient visits for influenza-like illness (ILI) was 3.6%.⁴

Pediatric deaths are the only nationally notifiable outcome for seasonal influenza. There were 74 laboratory-confirmed, influenza-associated pediatric deaths in the U.S during the 2015-16 season. There were no reported influenza-associated pediatric deaths in LFHD during the season.

Virginia Influenza Activity Levels

During influenza season, the Virginia Department of Health categorizes **State-wide** influenza activity using the following CDC definitions:

No Activity: No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.

Sporadic: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak reported, but no increase in cases of ILI.

Local: Outbreak of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

Regional: Outbreaks of influenza or increases in ILI and recent laboratory-confirmed influenza in at least 2 but less than half the regions of the state.

Widespread: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state.

The Virginia Department of Health monitors ILI activity each week from October through May. Those are the months when influenza is most likely to occur in VA. Flu surveillance is not designed to count every person who has the disease, but assesses ILI activity at the community level. VDH monitors changes in ILI activity by five health planning regions. ILI is defined as a fever along with a cough and/or a sore throat.

For Healthcare Providers

- ACIP recommends routine influenza vaccination for **all persons** aged 6 months and older.
- Healthcare workers may be required to receive vaccination or sign a waiver.
- The live attenuated influenza vaccine is no longer recommended.
- Vaccination efforts should continue throughout the season, because the duration of the season varies and may not peak until February or March.

LFHD Services

- LFHD provides influenza vaccine. Please call your local health department (see page 12) for more information.

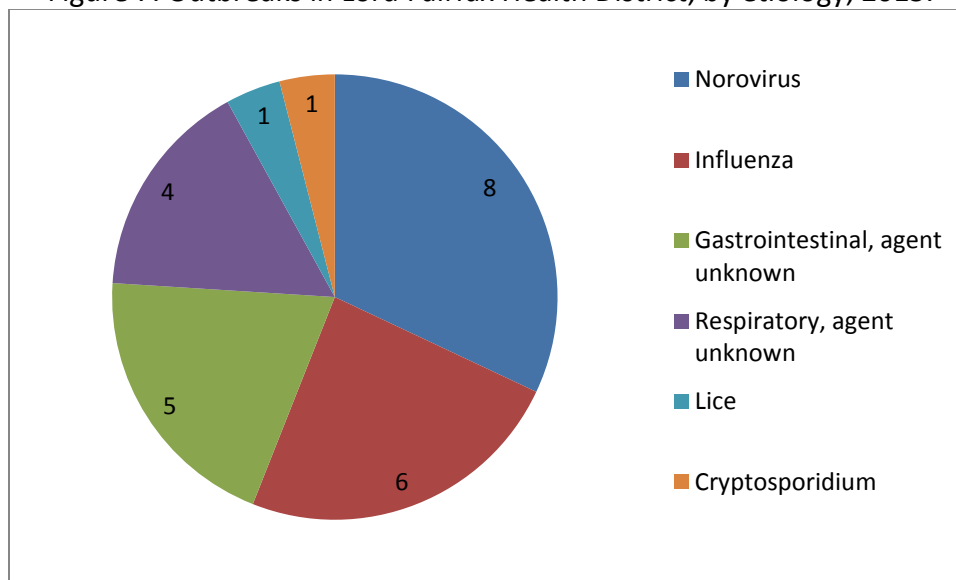
⁴ CDC, 2016. Influenza activity – United States, 2015-16 season and composition of the 2016-17 influenza vaccine. <http://www.cdc.gov/mmwr/volumes/65/wr/mm6522a3.htm>.

Outbreak Summary, 2015

According to the World Health Organization (WHO) and for public health purposes, an outbreak is defined as the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season.¹⁰ A single case of a communicable disease long absent from a population, or caused by an agent not previously recognized or the emergence of a previously unknown disease, may also constitute an outbreak and should be reported and investigated.

In 2015, LFHD investigated 26 outbreaks of illness, most of which were gastrointestinal illness or respiratory illness (Figure 7). The majority of outbreaks (24; 92%) occurred in nursing homes or assisted living facilities; one happened in a school and another at a camp.

Figure 7. Outbreaks in Lord Fairfax Health District, by etiology, 2015.



For Healthcare Providers

- Report all suspected outbreaks for any disease to your local health department as soon as possible.
- Frequent and proper hand washing with soap and water is the key measure for preventing most norovirus and other gastrointestinal outbreaks.

LFHD Services

- For each reported outbreak, LFHD will conduct an investigation to determine the causative agent and assist the facility with implementing prevention and control measures.

Lord Fairfax Communicable Disease Epidemiology Program Contact Information

Health Department	Address	City	Zip	Phone	Fax
Clarke County	100 North Buckmarsh Street	Berryville	22611	540-955-1033	540-955-4094
Frederick/Winchester	10 Baker Street	Winchester	22601	540-722-3470	540-722-3475
Page County	75 Court Lane	Luray	22835	540-743-6528	540-743-3811
Shenandoah County	494 North Main Street, #100	Woodstock	22664	540-459-3733	540-459-8267
Warren County	465 West 15th Street, Suite 200	Front Royal	22630	540-635-3159	540-635-9698
After Hours Phone	540-665-8611				
District Epidemiologist	540-722-3470, x143				

Data Source

Unless otherwise noted, data are LFHD primary surveillance data available in the Virginia Electronic Disease Surveillance System (VEDSS) as of September 19, 2016. All 2015 data are considered provisional.

Acknowledgements

This report was prepared by Meredith Davis, MPH, District Epidemiologist with the Virginia Department of Health, and approved by LFHD Interim Health Director David Goodfriend, MD; any errors are solely their responsibility. Feedback is welcome at meredith.davis@vdh.virginia.gov or david.goodfriend@vdh.virginia.gov.

Reportable Diseases

Suspected or confirmed diagnosis should be submitted on an [Epi-1 form](#) (see next page) by mail or fax.

Conditions listed in the **RED box** must be reported immediately by the most rapid means available (preferably phone call).

REPORT IMMEDIATELY	REPORT WITHIN 3 DAYS
<p> Anthrax [a] Botulism [a] Brucellosis [a] Cholera [a] Coronavirus infection, severe (e.g., SARS-CoV, MERS-CoV) [a] Diphtheria [a] Disease caused by an agent that may have been used as a weapon Haemophilus influenzae infection, invasive [a] Hepatitis A [a] Influenza-associated deaths <18 years of age Influenza A, novel virus [a] Measles (Rubeola) [a] Meningococcal disease [a] Outbreaks, all (including but not limited to foodborne, healthcare-associated, occupational, toxic substance-related, and waterborne) Pertussis [a] Plague [a] Poliovirus infection, including poliomyelitis [a] Psittacosis [a] Q fever [a] Rabies, human and animal [a] Rubella [a], including congenital rubella syndrome [a] Smallpox (Variola) [a] Syphilis, primary and secondary [a] Tuberculosis (TB), active disease [a,b] Tularemia [a] Typhoid/Paratyphoid fever [a] Unusual occurrence of disease of public health concern Vaccinia, disease or adverse event [a] Vibrio infection [a] Viral hemorrhagic fever [a] Yellow fever [a] </p>	<p> Acquired immunodeficiency syndrome (AIDS) Amebiasis [a] Arboviral infections (e.g., CHIK, dengue, EEE, LAC, SLE, WNV, Zika) [a] Babesiosis [a] Campylobacteriosis [a] Chancroid [a] Chickenpox (Varicella) [a] Chlamydia trachomatis infection [a] Creutzfeldt-Jakob disease <55 years of age [a] Cryptosporidiosis [a] Cyclosporiasis [a] Ehrlichiosis/Anaplasmosis [a] Escherichia coli infection, Shiga toxin-producing [a,c] Giardiasis [a] Gonorrhea [a] Granuloma inguinale Hantavirus pulmonary syndrome [a] Hemolytic uremic syndrome (HUS) Hepatitis B (acute and chronic) [a] Hepatitis C (acute and chronic) [a] Hepatitis, other acute viral [a] Human immunodeficiency virus (HIV) infection [a] Influenza [a,d] Lead, reportable levels [a] Legionellosis [a] Leprosy (Hansen's disease) Leptospirosis [a] Listeriosis [a] Lyme disease [a] Lymphogranuloma venereum Malaria [a] Mumps [a] Ophthalmia neonatorum Rabies treatment, post-exposure Salmonellosis [a] Shigellosis [a] Spotted fever rickettsiosis [a] Staphylococcus aureus infection, vancomycin-intermediate or vancomycin-resistant [a] Streptococcal disease, Group A, invasive or toxic shock [a] Streptococcus pneumoniae infection, invasive, <5 years of age [a] Syphilis, other than primary and secondary Tetanus Toxic substance-related illness [a] Trichinosis (Trichinellosis) [a] Tuberculosis (TB) infection <4 years of age Yersiniosis [a] </p>
<div style="background-color: #003366; color: white; padding: 5px; margin-bottom: 10px;">LEGEND</div> <p>[a] Reportable by directors of laboratories. These and all other conditions listed must be reported by physicians and directors of medical care facilities.</p> <p>[b] Laboratories report AFB, mycobacterial identification, and drug susceptibility for <i>M. tuberculosis</i></p> <p>[c] Laboratories that use EIA without a positive culture should forward positive stool specimens or enrichment broth to DCLS</p> <p>[d] Physicians and directors of medical care facilities report influenza by number of cases only (report total number per week and by type of influenza, if known); however, individual cases of influenza A novel virus or influenza-related deaths in persons <18 must be reported immediately</p>	

Effective October 20, 2016

MAIL THE TOP TWO COPIES TO YOUR <u>LOCAL</u> HEALTH DEPARTMENT					
VIRGINIA DEPARTMENT OF HEALTH Confidential Morbidity Report					
Patient's Name (Last, First, Middle Initial):			SSN: _____-_____-_____		
Patient's Address (Street, City or Town, State, Zip Code):			Home #: () _____-_____		
			Work #: () _____-_____		
			City or County of Residence		
Date of Birth: (mm/dd/yyyy)	Age:	Race: <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Asian <input type="checkbox"/> Black/African American <input type="checkbox"/> Hawaiian/Pacific Islander <input type="checkbox"/> White <input type="checkbox"/> Unknown		Hispanic: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sex: <input type="checkbox"/> F <input type="checkbox"/> M
DISEASE OR CONDITION:			Pregnant: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Death: <input type="checkbox"/> Yes <input type="checkbox"/> No Death Date:	
Date of Onset:	Date of Diagnosis:	Influenza: (Report # and type only. No patient identification)			
		Number of Cases:	Type, if Known:		
Physician's Name:			Phone #: () _____-_____		
Address:					
Hospital Admission: <input type="checkbox"/> Yes <input type="checkbox"/> No		Hospital Name:			
Date of Admission:		Medical Record Number:			
Laboratory Information and Results					
Source of Specimen:			Date Collected:		
Laboratory Test(s) and Finding(s):					
Name/Address of Lab:					
CLIA Number:					
Other Information					
Comments: (e.g., Risk situation [food handling, patient care, day care], Treatment [including dates], Immunization status [including dates], Signs/Symptoms, Exposure, Outbreak-associated, etc.)					
Name, Address, and Phone Number of Person Completing this Form:			Date Reported:		
			Check here if you need more of these forms, or call your local health department. <input type="checkbox"/> (Be sure your address is complete.)		
For Health Department Use					
			Date Received:		
			VEDSS Patient ID:		

Please complete as much of this form as possible

Form Epi-1, 10/2011