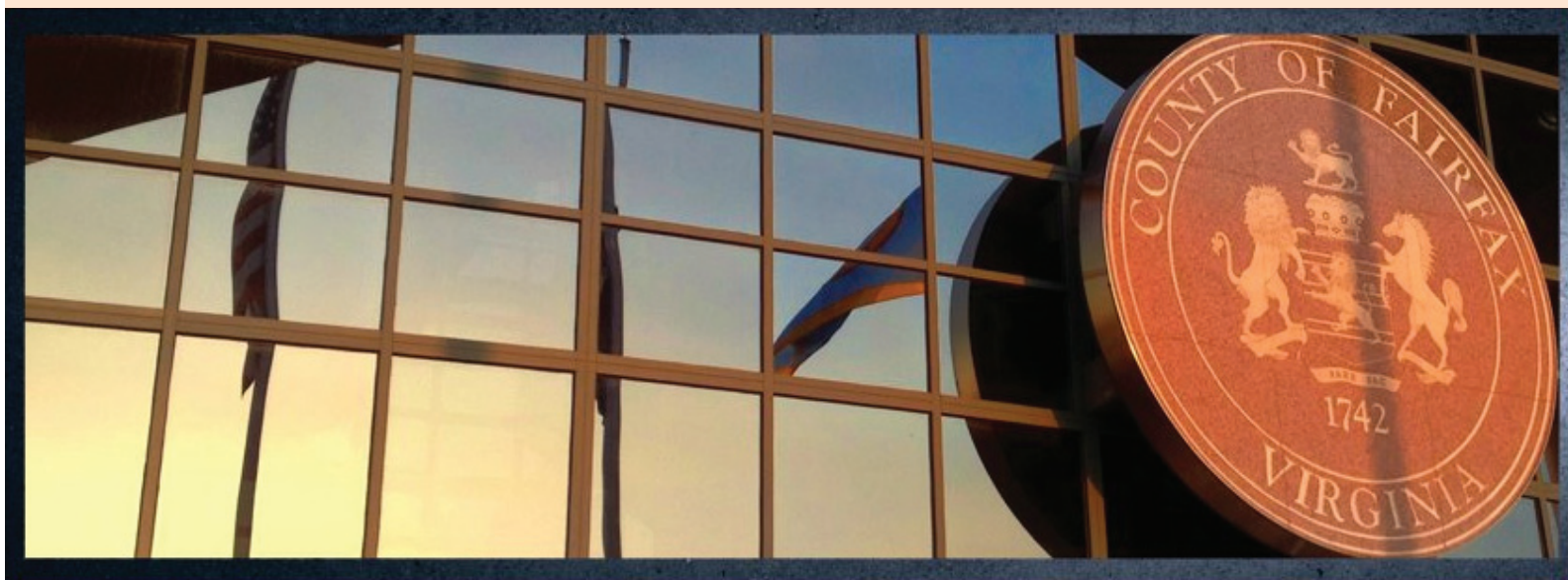


Communicable Disease Summary 2012



FAIRFAX COUNTY HEALTH DEPARTMENT
www.fairfaxcounty.gov/HD



Fairfax County Health Department 2012 Communicable Disease Summary



Dear Colleague:

This third edition of the Fairfax County Health Department’s Communicable Disease Summary highlights the reportable diseases that most impacted the Fairfax community in 2012. Each year, the Communicable Disease/Epidemiology Unit investigates thousands of reports of suspected communicable diseases, in partnership with local public health system partners such as the healthcare community, laboratories, public safety professionals, schools and institutions of higher education, the Virginia Department of Health, and other agencies to promptly identify, prevent, control and monitor diseases in the community.

Communicable disease surveillance, prevention, and control are core activities of the Fairfax County Health Department. As a critical partner and contributor to this core public health function, this report is intended to provide you and your clinical staff with information and practical guidance that we believe will help mitigate the potential impact of communicable diseases in our community.

The effectiveness of public health communicable disease investigations often depends on the timeliness of notification. Prompt reporting by clinicians can dramatically impact the course of these investigations and help to limit the spread of illness because Health Department staff are able to ensure the early implementation of appropriate infection control measures and facilitate laboratory testing. Staff are also able to conduct timely epidemiologic studies to determine the source of illness or perform contact tracing to identify exposed individuals when time-sensitive interventions such as antibiotic and vaccine prophylaxis are still indicated.

We thank you for your contributions and look forward to your continued partnership and support in ongoing efforts to improve the health and well-being of the Fairfax community.

Sincerely,

Gloria Addo-Ayensu, MD, MPH
Director of Health

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The mission of the Fairfax County Health Department is to protect, promote and improve health and quality of life for all in our community.

**Table 1. Reported cases of selected communicable diseases,
Fairfax County 2003-2012***

Disease	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 ^a	5 year average 2007-2011
AIDS	82	66	59	72	74	69	65	62	51	50	64.2
Amebiasis	9	4	12	10	9	17	7	5	4	12	8.4
Brucellosis	0	1	1	0	0	0	0	0	0	0	0.0
Botulism, infant	0	0	0	0	0	0	1	0	1	0	0.4
Campylobacteriosis	98	80	91	93	83	101	121	105	93	98	100.6
<i>Chlamydia trachomatis</i> infection	728	924	1284	1272	1310	1577	1572	1590	1803	2168	1570.4
Cryptosporidiosis	11	6	4	7	5	13	19	17	24	26	15.6
Cyclosporiasis	1	1	0	0	0	0	0	0	0	0	0.0
Dengue fever	-	-	-	-	8	2	0	3	7	7	4.0
<i>Escherichia coli</i> infection, Shiga toxin-producing [‡]	7	4	21	31	30	59	27	27	13	12	31.2
Ehrlichiosis/Anaplasmosis	1	0	2	2	2	11	1	7	17	6	7.6
Giardiasis	73	92	86	83	100	78	93	110	52	59	86.6
Gonorrhea	188	201	229	120	88	224	216	205	212	239	189.0
<i>Haemophilus influenzae</i> , invasive	3	1	4	3	2	6	9	8	13	8	7.6
Hansen's Disease (Leprosy)	0	0	0	1	0	0	0	1	1	0	0.4
Hepatitis A, acute	29	28	34	20	24	24	10	8	0	14	13.2
Hepatitis B, acute [±]	10	6	6	6	8	10	5	1	4	1	5.8
HIV infection	110	103	125	149	121	126	105	113	108	114	114.6
Influenza-associated mortality (less than age 18)	0	0	0	0	0	0	1	0	1	0	0.4
Lead, elevated blood levels	33	60	28	41	16	26	33	31	21	18	25.4
Legionellosis	6	6	3	5	3	9	7	7	9	5	7.0
Listeriosis	2	3	3	3	2	2	0	0	4	5	1.6
Lyme disease	10	1	10	102	208	191	260	256	146	149	212.2
Malaria	15	16	7	17	21	13	16	19	29	28	19.6
Measles	0	0	0	0	0	0	0	0	0	0	0.0
Meningococcal disease (<i>Neisseria meningitidis</i>)	0	2	2	4	1	1	1	2	2	0	1.4
Mumps	0	0	0	6	5	2	0	3	0	2	2.0
Pertussis	0	67	41	40	13	39	31	33	55	55	34.2
Q fever	0	0	0	0	0	0	0	1	0	0	0.2
Rabies, human	1	0	0	0	0	0	1	0	0	0	0.2
Salmonellosis	205	188	173	152	187	165	111	147	123	106	146.6
Shigellosis	62	43	30	27	49	25	26	37	26	16	32.6
Spotted fever rickettsiosis	1	7	8	11	5	9	6	11	20	26	10.2
<i>Staphylococcus aureus</i> infection, invasive (MRSA)	-	-	-	-	12	97	52	51	91	96	60.6
Streptococcus disease, Group A, invasive	2	0	8	11	13	11	14	15	34	14	17.4
<i>Streptococcus pneumoniae</i> , invasive	0	4	4	8	1	6	3	8	5	6	4.6
Syphilis, early stage	19	15	31	36	33	34	37	39	34	60	35.4
Trichinellosis	0	0	0	0	0	0	0	0	0	2	0.0
Tuberculosis	85	95	93	120	108	98	86	87	82	92	92.2
Typhoid fever	10	5	10	7	10	8	2	6	4	2	6.0
Varicella (Chickenpox)	32	86	211	301	180	155	64	59	56	87	102.8
Vibrio infection (non-cholera)	3	3	3	4	5	4	0	5	6	5	4.0
West Nile infection	3	1	0	3	1	1	1	2	1	8	1.2
Yersiniosis	1	0	1	1	2	2	1	1	0	0	1.2
Total	1840	2119	2624	2768	2739	3215	3004	3082	3152	3596	3038.4

* Unless otherwise indicated, all communicable disease data in this report are primary surveillance data from the Fairfax County Health Department and the Virginia Department of Health

^a 2012 data are provisional

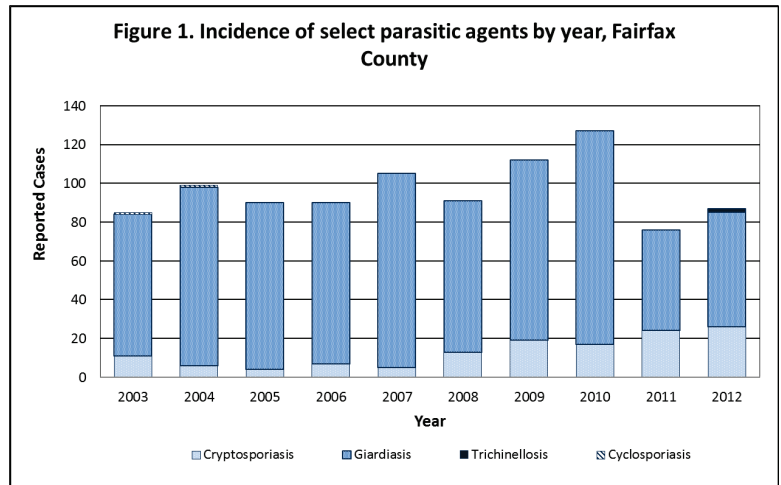
[‡] A more restrictive case definition for *Escherichia coli* infection, Shiga toxin-producing was implemented in 2011

[±] Includes two case of perinatal Hepatitis B (2009 and 2011)

- Not a reportable illness during the year listed

Parasitic Diseases

Parasitic diseases cause a tremendous burden of disease in both the tropics and subtropics as well as in more temperate climates.¹ In the United States, *Giardia* and *Cryptosporidium* are estimated to cause 2 million and 300,000 infections annually in the U.S., respectively. Cryptosporidiosis is the most frequent cause of recreational water-related disease outbreaks, causing multiple outbreaks each year in the U.S.² In Virginia, the five notifiable parasitic diseases are cryptosporidiosis, cyclosporiasis, giardiasis, malaria, and trichinellosis. Figure 1 shows the incidence of these diseases in Fairfax over a ten-year period. (Malaria information can be found on page 12 in the Travel-Associated Diseases Section.)



Trichinellosis Outbreak Investigation

During a three-week period in early 2012, three confirmed cases of trichinellosis were identified in the National Capital Region- two individuals were Fairfax County residents and the other was a D.C. resident. The FCHD investigation determined that prior to onset of illness, all three cases consumed free-range pork at two different D.C. restaurants. Although these investigations did not yield a definitive source of infection, the likely source of infection was undercooked free-range pork. Prior to these recent reports, the last reported case of trichinellosis in Virginia was in 2010 in an adult with recent history of consuming wild game. While the overall number of trichinellosis cases reported has decreased because of improved pig-raising practices in the pork industry and freezing of pork, the increasing popularity of free-range pork could result in an increase in trichinellosis cases.

- Giardiasis is the most commonly reported parasitic disease in Fairfax County with a five year annual average of 86.6 reported cases. In 2012, 59 cases of giardiasis were reported to the Health Department, accounting for 20.2 % of the 272 reported cases in Virginia.
- Twenty-six cases of cryptosporidiosis were reported in Fairfax County in 2012, accounting for 18.1% of the 144 cases reported to Virginia. Over the past five years, the total number of reported cases of cryptosporidiosis has increased three-fold in Fairfax County when compared to the previous five years.
- Cyclosporiasis and trichinellosis cases are infrequently reported to the Health Department. Two cases of each disease have been reported over the last ten years in Fairfax. This reporting frequency is also seen throughout the rest of Virginia. Statewide, 12 cases of cyclosporiasis and six cases of trichinellosis have been reported since 2005.

Clinician Pearls

- **Parasitic Disease Diagnosis-** The Laboratory Identification of Parasites of Public Health Concern website (<http://www.cdc.gov/dpdx/>) is a diagnostic reference resource for laboratorians and healthcare professionals that also provide training and free consultation with CDC staff.
- Whenever possible, conduct confirmatory laboratory testing for potential cases of parasitic disease. All suspect cases should be reported to the Health Department, as public health actions are taken for those individuals with live or work in a high-risk setting.
- **Drugs for Parasitic Disease-** Some drugs used to treat parasitic diseases are not marketed in the United States since their demand in this country is so limited that commercial licensure is not practical or profitable for pharmaceutical companies. Investigational new drug (IND) status and under treatment INDs is maintained by CDC to ensure that these products are available in the United States if needed. The following anti-parasitic drugs can be obtained from CDC's Drug Service (CDC Drug Service, Scientific Resources Program, telephone 404.639.3670), Artesunate, Diethylcarbamazine (DEC), Melarsoprol, Nifurtimox, and Suramin.³
- CDC has established a focus on Neglected Parasitic Infections in the United States to increase awareness among physicians and the public. They have targeted five parasitic infections as priorities for public health action, based on the numbers of people infected, the severity of the illnesses, or our ability to prevent and treat them. These include Chagas disease, neurocysticercosis, toxocarosis, toxoplasmosis, and trichomoniasis. For more information see <http://www.cdc.gov/parasites/npi.html>.

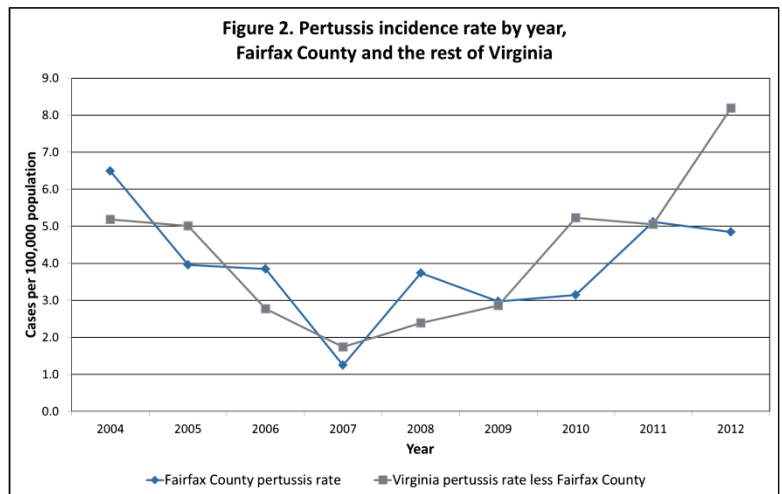
¹CDC. (2013 April 19). Parasites. Retrieved June 1, 2013, from <http://www.cdc.gov/parasites/>.

²CDC. (2010 November 2). About Parasites. Retrieved June 1, 2013, from <http://www.cdc.gov/parasites/about.html>.

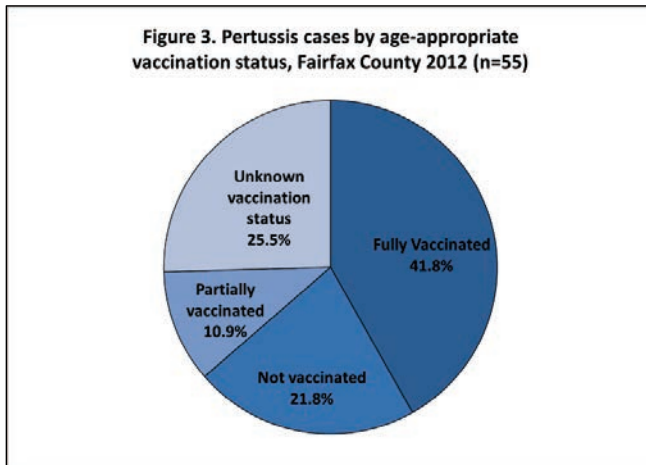
³CDC. (2010 November 2). Health Professionals. Retrieved June 1, 2013, from http://www.cdc.gov/parasites/health_professionals.html.

Pertussis

Between 2007 and 2012, the U.S. pertussis incidence rate increased steadily, eventually surpassing the highest rate observed during the last cyclical peak of disease incidence in 2004 and 2005.⁴ A primary reason for the continued circulation of *Bordetella pertussis* is waning immunity after completion of the childhood vaccination series, which leaves adolescents and adults susceptible. Pertussis vaccine is effective; however age appropriate vaccine coverage may not preclude individuals from disease. Fifty-nine percent of the U.S. pertussis cases among children ≤ 6 years of age had a history of 3 or more doses of DTaP.⁵ U.S. vaccination coverage rates has increased for the Tdap booster vaccine to 84.6% among adolescents (2012 data) and 12.5 % (2011 data) among adults.^{6,7}



- In 2012, a total of 55 cases of pertussis were identified in Fairfax County, equivalent to an incidence rate of 4.8 cases per 100,000 population. This represents a greater than 250% increase since 2007 and approaches the rate observed during the last Fairfax County cyclical peak in 2004 (Figure 2). Two outbreaks of pertussis were investigated in 2012, both in Fairfax County high schools.



- In 2012, 42% of the Fairfax County pertussis cases were considered fully vaccinated, while 11% were considered partially vaccinated. This follows trends seen throughout the state of Virginia. Only 12 cases (22.0%) reported no vaccination history, with the most common reason cited for no vaccination being parent/patient refusal (Figure 3).
- Between 2005 and 2012, infants aged <1 year, who are at greatest risk for severe disease and death, accounted for 12.7% of all reported pertussis cases in Fairfax County. Children 1-10 years of age accounted for an additional 26.7% of cases. The remaining 60.6% of cases occurred among adolescents and adults.

Clinician Pearls

- Protection of susceptible infants is a primary objective of public health pertussis control interventions. To reduce pertussis infections, ACIP recommends a Tdap booster for the following:
 - Pregnant mothers who have not already received Tdap booster should receive a single Tdap dose, preferably between 27 and 36 weeks. If not administered during pregnancy, Tdap should be given immediately postpartum. Close contacts to the infant are also recommended for immunization (e.g. siblings, grandparents, babysitters).
 - Children aged 7 through 10 years who are not fully vaccinated against pertussis should receive a single dose of Tdap. If additional doses of tetanus and diphtheria toxoid-containing vaccines are needed, vaccinate according to ACIP catch-up guidance, with Tdap given as the first dose.
 - Children 11-18 years of age should receive a single dose of vaccine, with preferred administration at 11 -12 years of age. Children 13-18 years of age who have not received Tdap should receive vaccine at the next patient encounter or sooner, if close contact with infants will occur.
 - Adults 19 years of age and older who have not received a dose of Tdap should receive vaccine as soon as feasible. Tdap can be administered regardless of the interval since the last Td booster.
 - Healthcare personnel who have not received Tdap as an adult should receive a single dose, regardless of the interval since the last Td dose.⁸
 - Further detail regarding Tdap recommendations is available at <http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/tdap-td.html>.
- Culture and/or PCR of nasopharyngeal specimens should be conducted for all suspected pertussis cases within 3 weeks of cough onset. Currently, serologic testing is of limited benefit for pertussis diagnosis.
- Promptly report suspected pertussis cases to FCHD to enable the rapid identification and chemoprophylaxis of exposed contacts.

⁴CDC. (2013 November 4) Pertussis (Whooping Cough): Surveillance and Reporting. Retrieved June 1, 2013, from <http://www.cdc.gov/pertussis/surv-reporting.html>.

⁵CDC. Notice to Readers: Final 2012 Reports of Nationally Notifiable Infectious Diseases. MMWR 2013;62(33):669-682.

⁶CDC. National and State Vaccination Coverage Among Adolescents Aged 13 Through 17 Years -- United States, 2012. MMWR 2013;62(34):685-693.

⁷CDC. Noninfluenza Vaccination Coverage Among Adults – United States, 2011. MMWR 2013;62(04):66-72.

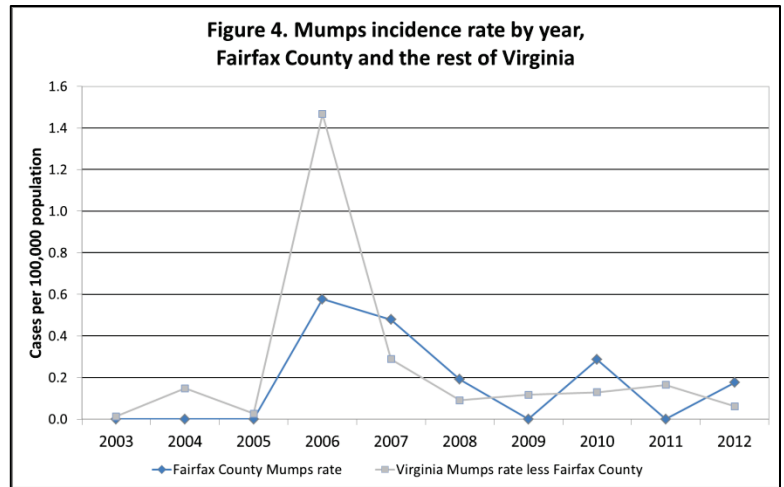
⁸CDC. (2012 March 22). Pertussis: summary of vaccine recommendations for health care professionals.

Retrieved June 1, 2013, from <http://www.cdc.gov/vaccines/vpd-vac/pertussis/recs-summary.htm>.

Mumps

The U.S. incidence rate of mumps dropped significantly following vaccine licensure. A more drastic decrease in incidence was seen upon the 2-dose recommendation in 1988 which resulted in a greater than a 99% reduction in disease incidence since the pre-vaccine era. The vaccine against mumps is effective, with the 2-dose efficacy estimated at 80-90%. The 10-20% of people who have received the 2-doses of vaccine but are still susceptible to mumps is sufficient to sustain occasional mumps outbreaks.⁹

Large-scale mumps outbreaks have occurred recently, most notably the 2006 Midwestern U.S. multistate outbreaks with 6584 reported cases and the 2009-2010 New York/ New Jersey outbreak with 3500 reported cases. These outbreaks have shown that when people sick with mumps have prolonged, close contact (as seen in congregate settings) mumps can spread even among vaccinated people.¹⁰



2013 Virginia Mumps University Outbreak

- As of May 21, 2013, 111 cases of mumps were under investigation in different regions of Virginia (68 confirmed cases).
- 7 cases of mumps were reported in Virginia in all of 2012.
- The majority of the 111 cases were part of an outbreak of mumps occurring at one university in the central region of the state.
- Additional cases of mumps identified at several other universities through Virginia were epi-linked to the index university.
- Students attending these universities sought care in Fairfax County, resulting in local cases linked to this outbreak.
- All cases among university students have reported 2-doses of MMR vaccine.

- In Fairfax County, 18 cases of mumps have been reported in the last ten years, with 2 cases being reported in 2012. Throughout Virginia, 209 cases of mumps have been reported in the last ten years, with 7 cases being reported in 2012 (Figure 4). The large number of cases reported in 2006 in Virginia was associated with the 2006 Midwestern U.S. outbreak.
- Although mumps is considered a pediatric disease, the majority (55%) of 2003-2012 Fairfax County mumps cases occurred in patients 20 years of age or older. Only four of the eighteen cases reported recent travel abroad prior to illness onset, suggesting mumps transmission within Fairfax County.

Clinician Pearls

- Mumps, unlike other reportable diseases, is primarily reported to the Health Department from astute physicians based on symptomology (particularly the presence of parotitis) rather than laboratory reports. During the last ten years, 77.8% of Fairfax mumps case investigations have stemmed from healthcare provider reporting. Therefore, healthcare exposures to mumps are to be expected within the County. FCHD recommends the following measures for suspected mumps cases:
 - Immediately triage the patient and do not allow the patient to remain in your waiting area;
 - Place a surgical mask on the patient as soon as possible and place the masked patient in a private, negative pressure room if available, or a room with a closed door;
 - Use standard and airborne precautions, if possible;
 - Only health care workers with documented immunity to mumps should work with the patient; and
 - Contact the FCHD Communicable Disease/Epidemiology Unit at 703-246-2433 to report the suspected case and for further infection control and prophylaxis guidance.
 - Collect serum and a buccal swab as soon as possible after symptom onset and coordinate with the health department to test for mumps IgM and IgG antibodies and viral isolation.
- To limit mumps transmission, health-care facilities should document that all healthcare providers have evidence of immunity. Evidence of mumps immunity in healthcare providers requires one of the following:
 - Written documentation of vaccination with 2 doses of MMR vaccine;
 - Laboratory evidence of immunity (positive IgG titer) or laboratory confirmation of disease;
 - Diagnosis or verification of a history of mumps disease by a health-care provider.
- Exposed health care workers without evidence of immunity will be required to adhere to a 21 day quarantine.¹¹

⁹Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Atkinson W, Wolfe S, Hamborsky J, eds. 12th ed., second printing. Washington DC: Public Health Foundation, 2012.

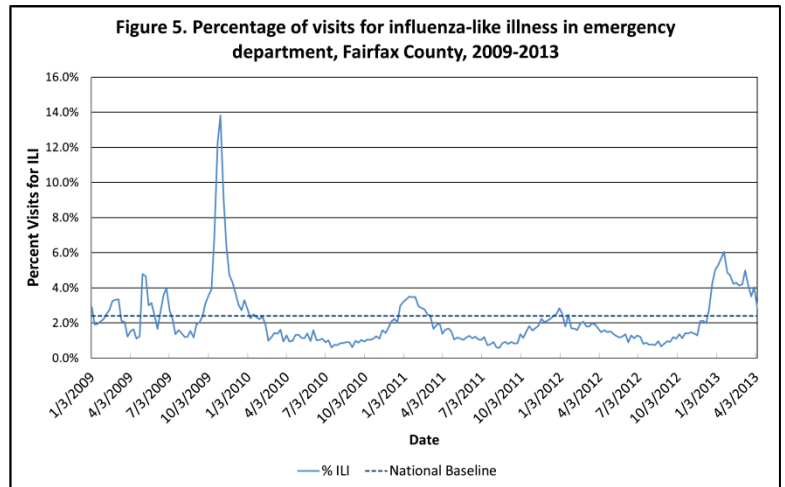
¹⁰American Academy of Pediatrics. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. *Red Book: 2006 Report of the Committee on Infectious Diseases* 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006.

¹¹CDC. Immunization of health-care personnel: Recommendations of the ACIP. MMWR 2011; 60 (No. RR-7).

Influenza

The 2012-2013 U.S. influenza season peaked in December and can be characterized as moderately severe. It was associated with more outpatient visits, hospitalizations, and deaths when compared to the last two influenza seasons. U.S. virologic surveillance indicated that seasonal influenza A (H3N2) viruses predominated, with co-circulation of influenza B viruses, and to a lesser extent, influenza A (H1N1) viruses. CDC's estimates for influenza vaccine effectiveness illness were consistent across age groups, with the exception of among people 65 and older. The overall vaccine effectiveness against influenza A and B viruses among people 65 and older was 27 percent.¹² Flu vaccination rates for children and adults increased in the 2012-13 season, 5.5% and 2.9% respectively in the U.S. and by 4.7% and 4.5% respectively in Virginia.¹³

In Fairfax County and Virginia, influenza surveillance is conducted each October through May through surveillance of disease activity at the community level. Multiple influenza surveillance approaches are utilized, including emergency department syndromic surveillance, sentinel provider virologic surveillance, and pediatric death reporting. Local data indicate that influenza epidemiology in Fairfax County and Virginia during the 2012-13 influenza season mirrored that seen at the national level in relation to timing and virologic types.



- During the 2012-2013 season, influenza activity was categorized as widespread in Virginia for thirteen weeks, beginning in the week of December 15, 2012. By comparison, Virginia reported widespread activity for only three weeks during the 2011-2012 influenza 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.

Virginia influenza activity levels and other influenza surveillance information are available online at <http://www.vdh.virginia.gov/Epidemiology/flu/WklyPhysReport.pdf>.

- Emergency department utilization for influenza-like illness in Fairfax County remained high for much of the 2012-2013 influenza season, with activity peaking at 6.05% the week of January 19, 2013, which was significantly greater than the national influenza baseline level of 2.4% (Figure 5).
- Virginia virologic surveillance, which includes specimens submitted by four Fairfax County sentinel providers, identified co-circulation of influenza A (H3), 2009 H1N1, and influenza B viruses.
- Seven influenza-like illness outbreaks were reported in Fairfax County during the 2012-2013 season. Four outbreaks were associated with long-term care facilities and three with schools. Influenza A was found to be the causative agent by rapid testing in five of these outbreaks.
- No influenza-associated pediatric deaths were reported in Fairfax County during the 2012-2013 influenza season.

Clinician Pearls

- The Advisory Committee on Immunization Practices recommends routine influenza vaccination for all persons aged 6 months and older. Vaccination efforts should continue throughout the influenza season as the duration of the influenza season varies and disease activity might not peak until February or March.
- All healthcare facilities should have a comprehensive, up-to-date healthcare worker immunization policy for influenza and all other vaccine preventable diseases. This policy should encompass all employees and volunteers who are at risk of exposure to or possible transmission of vaccine preventable diseases. To assist in ensuring appropriate documentation of immunity, a one-page summary of the Advisory Committee on Immunization Practices recommendations for healthcare worker immunization is available at <http://www.immunize.org/catg.d/p2017.pdf>.
- There are new formulations available in the 2013-2014 season including quadrivalent injectable and nasal vaccines, egg-free vaccines, and vaccine delivery systems that use a micro-needle. All of these options are considered effective in providing influenza immunizations.
- FCHD provides free influenza vaccine to all Health Department clients through our five district offices. Vaccine is also available to the general public for a nominal fee. Clients may call 703-246-2411 to confirm service hours and locations.
- Influenza-associated deaths in children < 18 years of age and all suspected institutional outbreaks of influenza should be immediately reported to the FCHD.

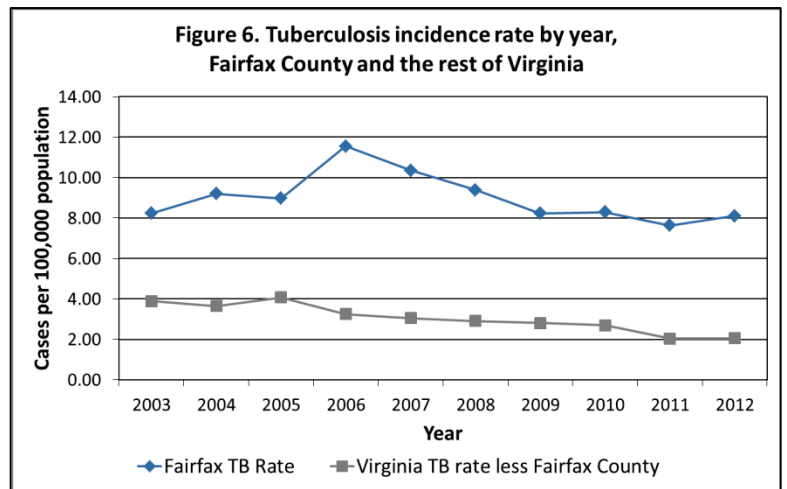
¹² CDC. (2013 April 10). CDC 2012-2013 Flu Season Wrap-up. Retrieved from <http://www.cdc.gov/flu/spotlights/2012-2013-flu-season-wrapup.htm>.

¹³ CDC. (2013 April 10). 2012-13 State and Regional Vaccination Coverage Report II. Retrieved from <http://www.cdc.gov/flu/fluavxview/reports/reporti1213/reportii/index.htm>.

Tuberculosis

In 2012, the reported incidence of TB in the U.S. was 3.2 cases per 100,000 population. This represents a decline in the reported number of TB cases and the case rate by 5.4% and 5.9%, respectively compared to 2011. Since the 1992 TB resurgence peak in the U.S., the number of TB cases reported annually had decreased by 63%. This downward trend in TB incidence has been driven primarily by a decrease in cases among U.S.-born persons.¹⁴ However, the global burden of TB disease remains enormous and the proportion of total cases occurring in foreign born individuals in the US has been increasing since 1993.¹⁵

- In Fairfax County, the TB incidence rate has remained relatively stable over the last decade, but consistently higher than the incidence rate for the rest of Virginia (Figure 6). In 2012, the Fairfax County TB incidence rate of 8.1 cases per 100,000 was 3.9 times higher than the rate for the rest of Virginia (2.1 per 100,000), and more than double the U.S. rate (3.2 per 100,000).



Country	No. of cases	Percent
Vietnam	89	11.6%
India	87	11.4%
Ethiopia	56	7.3%
Republic of Korea	55	7.2%
Bolivia	41	5.4%
Philippines	40	5.2%
El Salvador	39	5.1%
Remaining 52 countries	287	46.8%

- As seen by Table 2, the distribution of TB cases by world region of origin reflects immigration patterns among people settling in Fairfax County. As in the U.S., there is a predominance of foreign-born individuals among local TB cases. Between 2005 and 2012, approximately 90% of incident TB cases identified in Fairfax County were among foreign-born persons. Forty-six percent of these infected individuals had resided in the U.S. for 5 years or less at the time of diagnosis. The most common countries of origin for foreign-born cases identified between 2005 and 2012 were Vietnam (12.8%) and India (12.5%).
- In 2012, 8.7% of Fairfax County TB cases exhibited isoniazid resistance, and one exhibited multi-drug resistance (MDR) defined as no previous history to TB and resistance to at least isoniazid and rifampin. Between 2005 and 2012, a total of 9 cases of MDR TB (1.2% of all cases) were identified, a percentage comparable to that seen at the national level, which has fluctuated between 0.9% and 1.3% over the past decade. No cases of XDR-TB were reported in 2012 in Fairfax County.

2012-2013 High School TB Investigation

In early 2013, the Health Department was notified of 3 cases of active TB at a local high school. A ringed approach to prioritizing individuals at high risk for possible exposure eventually led to the entire school being offered testing. This large TB contact investigation required cooperation and partnership with the schools, private medical community, hospitals, and the general community. The Health Department was able to test 96% of currently enrolled students. Two hundred-thirty five individuals were identified with latent TB and offered preventative treatment and no further cases of active TB were identified from this school population.

Clinician Pearls

- Consider TB in the differential diagnosis for foreign-born individuals presenting with compatible signs and symptoms (e.g., cough, fever, night sweats, or weight loss).
- In addition to the Tuberculin Skin Test (TST), interferon-gamma release assays (IGRAs) are also available to aid in the diagnosis of TB:
 - Quantiferon TB Gold in Tube (QFT-GIT) is available through private laboratories; and
 - T-Spot. TB is available through the manufacturer, Oxford Immunotec.
- When using IGRAs, remember the following:
 - A negative IGRA is similar to a negative TST, it does not rule out latent or active tuberculosis infection; and
 - TST remains the test of choice for children less than 5 years of age as there has not been enough experience with IGRAs in this age group.
- The new *Core Curriculum on Tuberculosis: What the Clinician Should Know* is available online from the CDC at <http://www.cdc.gov/tb/education/corecurr/index.htm>. Physicians can earn up to 6.5 AMA free PRA Category I CME credits for completing this curriculum.
- Report all suspected tuberculosis cases to FCHD, regardless of location of infection or treatment status. FCHD will conduct contact investigations to identify exposed individuals and provide appropriate follow-up.

¹⁴ CDC. *Reported Tuberculosis in the United States, 2011*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, October 2012.

¹⁵ CDC. Trends in tuberculosis -- United States, 2012. *MMWR* 2013;62(11): 201-205.

Virginia Reportable Disease List

Communicable Disease Reporting Guide for Clinicians

Disease reporting requirements for clinicians practicing in the Commonwealth of Virginia.

By law, Virginia clinicians must report diagnoses of the specified infections, diseases, and conditions listed on this poster. Both lab-confirmed and clinically suspect cases are reportable. The parallel system of lab reporting does not obviate the clinician's obligation to report. Some conditions (e.g., uncommon illness of public health significance, animal bites, HUS, pesticide poisoning, disease outbreaks) are rarely, if ever, identified by labs. We depend on clinicians to report.

Reports should be made to the patient's local health department (based on patient's home address) **and include at least the patient's name, home address, phone number, date of birth, gender, diagnosis, and date of symptom onset.** Most reports should be made within one working day of the diagnosis, but there are several important exceptions — please refer to the list on this poster.

Disease reporting enables appropriate public health follow up for your patients, helps identify outbreaks, provides a better understanding of morbidity patterns, and may even save lives. Remember that HIPAA does not prohibit you from reporting protected health information to public health authorities for the purpose of preventing or controlling diseases, including public health surveillance and investigations; see 45 CFR 164.512(b)(1)(i).3.

COMPLIANCE

A civil penalty may be imposed against a person or entity for failing or neglecting to comply with reporting regulations as issued by the State Board of Health of the Commonwealth of Virginia. State Board issued regulations include the requirements to report the diseases listed on this poster, along with related data; and to cooperate with local and state public health authorities in their investigation and control of reportable diseases. (Regulations for Disease Reporting and Control § 32.1-27.)

REPORT IMMEDIATELY*

- | | |
|--|--|
| Anthrax | Psittacosis |
| Botulism | Q Fever |
| Brucellosis | Rabies, Human and Animal |
| Cholera | Rubella |
| Diphtheria | Severe Acute Respiratory Syndrome (SARS) |
| <i>Haemophilus Influenzae</i> Infection, Invasive | Smallpox (Variola) |
| Hepatitis A, | Syphilis (Primary and Secondary) |
| Influenza, Novel Virus | Tuberculosis, active disease |
| Influenza –Associated Deaths in Children < 18 Years of Age | Tularemia |
| Measles | Typhoid/Paratyphoid fever |
| Meningococcal Disease | Unusual occurrence of disease of public health concern |
| Monkeypox | Vaccinia, disease or adverse event |
| Mycobacterial Diseases | <i>Vibrio</i> infection |
| Outbreaks, All | Viral hemorrhagic fever |
| Pertussis | Yellow Fever |
| Plague | |
| Poliovirus Infection | |

*within 24 hours of diagnosis

REPORT WITHIN THREE DAYS

- Acquired immunodeficiency syndrome (AIDS)
- Arboviral infections (e.g. dengue, EEE, LAC, SLE, WNV)
- Campylobacteriosis
- Chancroid
- Chickenpox (Varicella)
- *Chlamydia trachomatis* infection
- Creutzfeldt-Jakob disease if <55 years of age
- Cryptosporidiosis
- Cyclosporiasis
- Ehrlichiosis/Anaplasmosis
- *Escherichia coli* infection, Shiga toxin-producing
- Giardiasis
- Gonorrhea
- Granuloma inguinale
- Hantavirus pulmonary syndrome
- Hemolytic uremic syndrome (HUS)
- Hepatitis B (acute and chronic)
- Hepatitis C (acute and chronic)
- Hepatitis, other acute viral
- Human immunodeficiency virus (HIV) infection
- Influenza
- Lead, elevated blood levels
- Legionellosis
- Leprosy
- Lyme disease
- Lymphogranuloma venereum
- Malaria
- Mumps
- Ophthalmia neonatorum
- Rabies treatment, post-exposure
- Salmonellosis
- Shigellosis
- Spotted fever rickettsiosis
- *Staphylococcus aureus* infection, (invasive methicillin-resistant) and (vancomycin-intermediate or vancomycin-resistant)
- Streptococcal disease, Group A, invasive or toxic shock
- *Streptococcus pneumoniae* infection, invasive, in children <5 years of age
- Syphilis
- Tetanus
- Toxic substance-related illness
- Trichinosis(Trichinellosis)
- Tuberculosis infection in children <4 years of age
- Yersiniosis





Fairfax County Health Department Communicable Disease/Epidemiology Unit



Contact Information

Communicable Disease/Epidemiology Unit

(for all communicable disease reports & guidance during business hours)

703.246.2433 • TTY 711

FAX 703.385.3681

Communicable Disease Hotline

Health care providers should call 703-246-2433 to obtain the Communicable Disease Hotline number for reporting on weekends and evenings

Fairfax County Public Health Laboratory

703.246.3218 • TTY 711

FAX 703.591.3641

Rabies Program

(for all rabies reports & guidance during business hours)

703.246.2433 • TTY 711

FAX 703.385.3681

Rabies Hotline

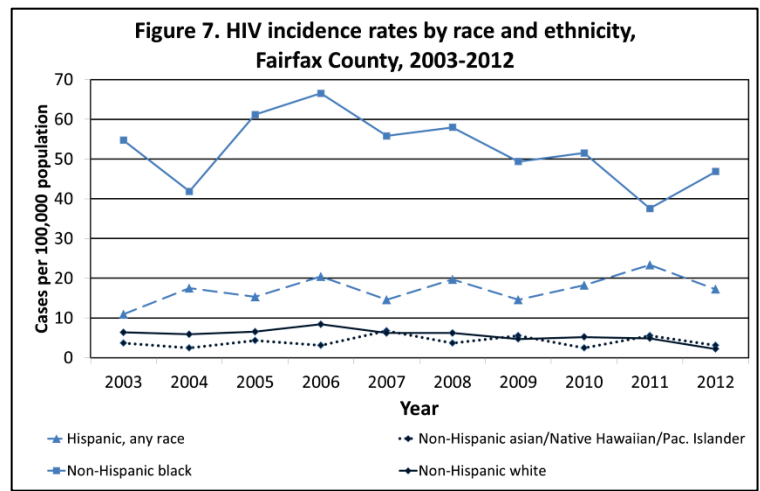
Health care providers should call 703-246-2433 to obtain the Rabies Hotline number for reporting on weekends and evenings

FCHD Communicable Disease Services

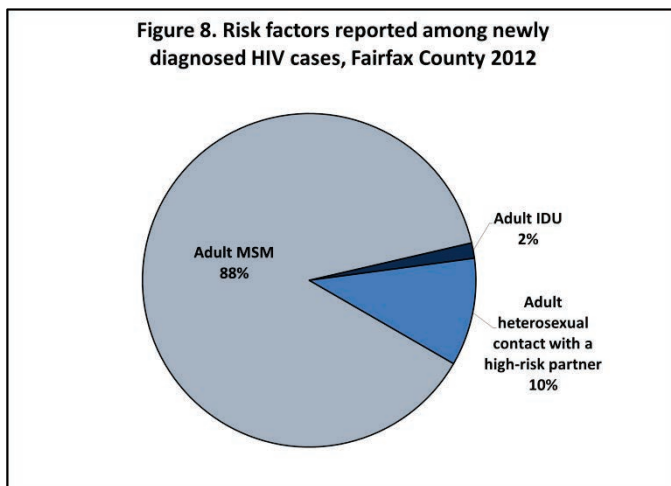
<p>Communicable Disease Surveillance and Investigation</p>	<ul style="list-style-type: none"> FCHD conducts communicable disease surveillance and investigation with the goal of reducing morbidity and mortality within the community. When cases or outbreaks of disease are reported or identified, FCHD staff: <ul style="list-style-type: none"> Provide infection control guidance to clinicians, facilities, and infected individuals; Identify exposed individuals and provide guidance regarding disease prevention, including recommendations for the administration of prophylaxis (if appropriate).
<p>Rabies</p>	<ul style="list-style-type: none"> Rabies program staff provides guidance regarding rabies exposure assessment and PEP administration 24 hours a day. FCHD Laboratory provides animal rabies testing for human or domestic animal exposures.
<p>Tuberculosis</p>	<ul style="list-style-type: none"> Tuberculosis program staff provides clinical guidance regarding TB diagnosis and treatment. Free laboratory testing, chest x-rays, medications, and case management services are provided for all Fairfax County residents.
<p>HIV/AIDS</p>	<ul style="list-style-type: none"> Free HIV testing (including anonymous option) and HIV harm-reduction counseling is available through FCHD walk-in clinics and STD clinics. Clients may visit http://www.fairfaxcounty.gov/hd/hiv-testing-aids/ or call 703-246-2411 for service hours. HIV/AIDS program staff coordinates HIV/AIDS treatment, including treatment obtained through the AIDS Drug Assistance Program.
<p>STD</p>	<ul style="list-style-type: none"> STD testing and treatment are available free of charge at each of the five FCHD district offices. Clients may visit http://www.fairfaxcounty.gov/hd/std-clinic-sched.htm or call 703-246-2411 to confirm service hours. STD program staff provides partner notification services for reported STD cases.
<p>Laboratory</p>	<ul style="list-style-type: none"> FCHD laboratory conducts testing in support of communicable disease investigations including testing for TB, HIV, STDs, enteric pathogens, and rabies virus.
<p>Outreach</p>	<ul style="list-style-type: none"> FCHD provides educational outreach regarding communicable disease prevention and control throughout the Fairfax Community.

HIV/AIDS

Annual HIV incidence rates in the U.S. have remained relatively stable in recent years, averaging 15.9 cases per 100,000 population between 2008 and 2011. However, as treatment modalities and access to services have improved, there has been an increase in the number of individuals living with HIV and AIDS. At the end of 2010, the estimated U.S. prevalence rate of diagnosed HIV infection was 282.2 per 100,000 population, a 5.1% increase compared to 2008. Specific demographic groups continue to be disproportionately affected by HIV and AIDS at the national level, with non-Hispanic blacks facing the highest burden of disease, followed by Hispanics. By risk group, men who have sex with men (MSM) are the most severely affected.¹⁶



- HIV incidence in Fairfax County increased during the early part of the last decade, peaking at 149 cases in 2006. Between 2008 and 2012, incidence has gradually decreased. Approximately 78.9% of all incident Fairfax County HIV cases identified between 2011 and 2012 were male and the most common age at diagnosis was 25-34 years.
- In 2012, 114 newly-diagnosed HIV cases were identified in Fairfax County, equivalent to a rate of 10.0 per 100,000 population. This compares favorably with the incidence rate for the rest of Virginia of 11.3 per 100,000 population.
- The 2012 HIV incidence rate for non-Hispanic blacks is nearly 9 times greater than that seen among white residents. Hispanics were also disproportionately affected, with an incidence rate nearly 4 times that seen among whites (Figure 7).



- In 2012, over half (51.8%) of the new HIV diagnoses in Fairfax County were among MSM. Other high-risk groups included adults reporting heterosexual contact with a high-risk partner and intravenous drug users (Figure 8).
- At the end of 2012, 2,794 Fairfax County residents were living with HIV or AIDS, equivalent to a prevalence rate of 246.0 per 100,000 population. This represents a 4.0% increase since 2011, but remains lower than the 2012 prevalence rate for the rest of Virginia (305.3 per 100,000 population). More than 43.8% the Fairfax residents living with HIV or AIDS at the end of 2012 were non-Hispanic blacks, and nearly 14.4% were Hispanics. Non-Hispanic blacks and Hispanics account for 8.9% and 15.6% of the Fairfax County population, respectively.¹⁷ Almost half of all individuals living with HIV or AIDS were MSM. Over 1,449 met the surveillance criteria for AIDS.

Clinician Pearls

- The CDC recommends routine HIV screening for all patients aged 13-64 years in all health care settings. Screening should be performed regardless of whether the patient is known or suspected to have behavioral risks for infection.
- All pregnant women should be tested for HIV infection as early during pregnancy as possible. A second test during the third trimester, preferably at <36 weeks' gestation, should be considered for all pregnant women and is recommended for women known to be at high risk for acquiring HIV.¹⁸
- In 2008, Virginia adopted an "opt-out" screening process for HIV testing. Under this process, consent for HIV testing is inferred unless the patient verbally declines. A medical care provider must inform the patient that the test is planned, provide information about the test, and advise the patient of their right to decline the test. A specific written consent form is not necessary; general consent for medical care is sufficient. If a patient declines an HIV test, clinicians must document the declination in the patient's medical record.
- Free, confidential HIV testing is available at each of the five FCHD district offices. Harm reduction counseling before and after testing is included. Clients may call 703-246-2411 to confirm service hours and locations.

¹⁶CDC. (February 2013). *HIV Surveillance Report, 2011*; vol. 23. Retrieved June 1, 2013 from <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>.

¹⁷ U. S. Census Bureau. (2010). *American FactFinder: Fairfax County, VA*. Retrieved June 1, 2013 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

¹⁸ CDC. Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR 2010; 59 (No. RR-12).

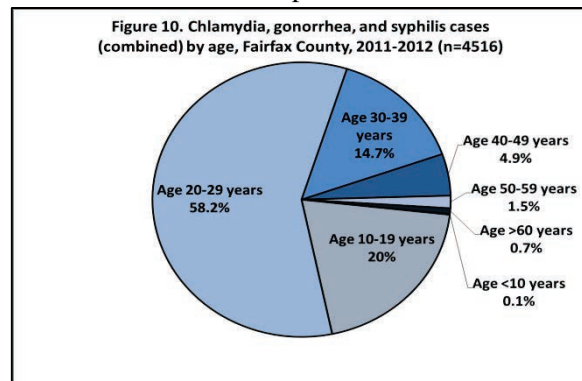
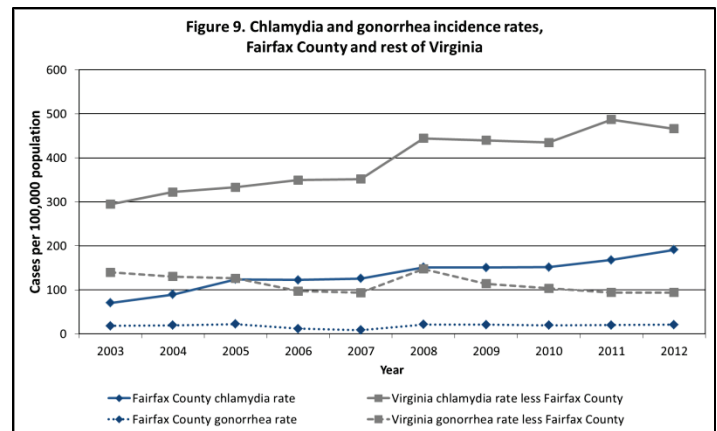
Sexually Transmitted Diseases

STDs are a significant health challenge facing the United States. CDC's new estimates show that there are a total of 110 million infections in the United States with about 20 million new infections each year costing the American healthcare system nearly \$16 billion in direct medical costs alone. Young people (15-24) represent 50% of all new cases.¹⁹

Each of these infections is a potential threat to an individual's immediate and long-term health especially if not diagnosed and treated early. The most commonly reported new STD cases in the U.S. in 2012 were human papillomavirus (HPV) (14,100,000*), chlamydia (1,422,976), Trichomoniasis (1,090,000*), and gonorrhea (334,826). There were 49,903 new syphilis cases reported in 2012.^{19, 20}

In Fairfax County, the incidence rates for chlamydia and gonorrhea have increased in recent years, yet both are still below the incidence rate seen throughout the rest of the state of Virginia (Figure 9). In 2012, 60 early syphilis cases were identified in Fairfax County, equivalent to an incidence rate of 5.3 per 100,000 population, which compares favorably with the incidence rate of 6.8 and 7.9 per 100,000 population seen in Northern Virginia and throughout the rest of the state of Virginia, respectively. Among Fairfax County early syphilis cases identified between 2010-2012, 41.7% were co-infected with HIV.

- When examining the gender of Fairfax STD cases, significant differences were noted when comparing the diseases. In 2011-2012, screenings during pregnancy and gynecologic exams attributed to the fact that 68.7% of reported chlamydia cases were female, while 59.6% of reported gonorrhea cases were male. In line with national trends, syphilis among men who have sex with men (MSM) continues to rise. Men made up 96.8% of Fairfax County syphilis cases in 2011 and 2012, 75% of which were reported to be MSM.



- Nearly 93% of all combined Fairfax County chlamydia, gonorrhea, and syphilis cases in 2011 and 2012 occurred among individuals 10-39 years of age. The most common age at diagnosis was 20-29 years, with 58.2% of cases occurring among individuals in this age group (Figure 10).
- In 2011-2012, the Fairfax County STD (chlamydia, gonorrhea, and syphilis cases combined) incidence rate for non-Hispanic blacks (442.3 per 100,000 population) was more than six times that seen among white residents (67.3 per 100,000 population). The incidence rate among Hispanics (149.0 per 100,000 populations) was more than double to that seen among whites.

Clinician Pearls

- CDC recommends that all persons who have syphilis be tested for HIV infection. Given the high prevalence of HIV in the National Capital Region and the high rate of HIV co-infection among Fairfax County syphilis cases individuals who have primary syphilis should be retested for HIV three months after the first HIV test result was negative.²⁰
- Promptly report suspected syphilis cases to FCHD. For all early syphilis cases, FCHD will conduct partner notification and facilitate testing and/or treatment for exposed individuals.
- Most sexually active men and women will get HPV at some point in their lives. This means that everyone is at risk for the potential outcomes of HPV and many may benefit from the prevention that the HPV vaccine provides. HPV vaccines are routinely recommended for 11 or 12 year old boys and girls. CDC also recommends that all teen girls and women through age 26 get vaccinated, as well as all teen boys and men through age 21 (and through age 26 for gay, bisexual, and other men who have sex with men).
- Since many individuals with STD's may not present with symptoms, CDC recommends²¹:
 - All adults and adolescents should be tested at least once for HIV.
 - Annual chlamydia screening for all sexually active women age 25 and under, as well as older women with risk factors such as new or multiple sex partners.
 - Yearly gonorrhea screening for at-risk sexually active women.
 - Syphilis, HIV, chlamydia, and hepatitis B screening for all pregnant women, and gonorrhea screening for at-risk pregnant women at the first prenatal visit, to protect the health of mothers and their infants.
 - Trichomoniasis screening should be conducted at least annually for all HIV-infected women.
 - Screening at least once a year for syphilis, chlamydia, gonorrhea, and HIV for all sexually active gay men, bisexual men, and other men who have sex with men.

*2008 case numbers - represent most recent published data.

¹⁹CDC Fact Sheet. Incidence, Prevalence, and Cost of Sexually Transmitted Infections in the United States. 2013. Centers for Disease Control and Prevention. Retrieved from <http://www.cdc.gov/std/stats/STI-Estimates-Fact-Sheet-Feb-2013.pdf>

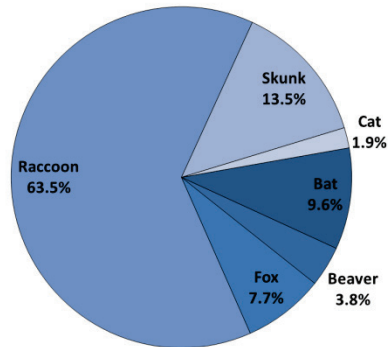
²⁰ CDC. Sexually transmitted disease surveillance 2012. Atlanta: U.S. Department of Health and Human Services; 2014.

²¹ CDC. Sexually transmitted diseases treatment guidelines, 2010. MMWR 2010; 59 (No. RR-12). <http://www.cdc.gov/std/stats11/default.htm>

Rabies

Over the last 100 years, rabies in the U.S. has changed dramatically. Before 1960, the majority of animal cases reported occurred in domestic animals whereas, currently more than 90% of all animal cases reported to the CDC occur in wildlife. The principal rabies hosts today are wild carnivores and bats.²² Human rabies infection is now rare, with an average of only two to three U.S. cases identified each year.²³ Rabies prophylaxis is nearly 100% successful.²⁴

Figure 11. Positive rabies lab results by species, Fairfax County 2012 (n=52)



- No human rabies cases were identified in Fairfax County in 2012. The most recent human case, a fatal infection with internationally-acquired canine rabies, occurred in 2009.
- Rabies is endemic among wild mammals in Fairfax County and rabid animals are identified throughout the jurisdiction each year. Raccoons accounted for the majority of 2012 positive rabies test results (63.5%), followed by skunks (13.5%) (Figure 11). These terrestrial carnivores are considered to be the highest risk species for rabies in the County. Of the 93 bats tested in 2012, five were positive for rabies virus. In 2012, two beavers tested positive and both were found in lake areas. Although rabies was not identified among household pets in 2012, one feral cat tested positive for rabies, resulting in post-exposure prophylaxis for 13 individuals.
- In 2012, 1,485 human exposures to animals (primarily bites) were reported to Animal Control Services Division (ASD). For more than 95% of these exposures, ASD and FCHD were able to locate the offending animal for quarantine or testing, eliminating the need for rabies post-exposure prophylaxis (PEP).
- Rabies was initiated in a total of 224 Fairfax County residents in 2012. Thirty-eight (17.0%) of these patients did not have a rabies exposure history that met the Advisory Committee on Immunization Practices' criteria and should not have received PEP. Even when PEP was indicated, it was incorrectly administered in 95 (42.4%) of the patients, with failure to infiltrate the wound with rabies immune globulin (HRIG) being the most common PEP administration error.

Bat Exposures

Wounds from bats can be very minor and potential bat exposures require thorough evaluation and present unique challenges.²³ Whenever possible, bats involved in potential human exposures should be safely collected and submitted to FCHD for rabies testing. The overwhelming majority of bats submitted to the FCHD Laboratory test negative for rabies. A negative test result eliminates the need for post-exposure prophylaxis (PEP). FCHD staff is available to assist with exposure assessment and to provide PEP guidance when the exposing bat tests positive or cannot be located for laboratory testing.

Rabies Exposure Definition

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

Clinician Pearls

- Accurate rabies exposure assessment and correct administration of post-exposure prophylaxis (PEP) are critical for preventing disease and ensuring that vaccine remains available for truly exposed individuals.
 - FCHD rabies staff members are available for consultation regarding rabies exposure assessment and PEP administration at 703-246-2433 (business hours) or 571-274-2296 (evenings and weekends).
 - An online course is available to provide clinicians with further information about rabies exposure assessment and PEP administration at <http://ideha.dhmh.maryland.gov/training/SitePages/rabies.aspx>. CME credits are available.
- The FCHD Public Health Laboratory routinely conducts direct fluorescent antibody testing for rabies virus on animals submitted by the Fairfax County Animal Control Services Division (ASD).
- Only a small percentage of individuals exposed to a potentially rabid animal will require PEP. If the offending animal can be located, PEP administration should be delayed pending the outcome of confinement or testing.
- All exposures to potentially rabid animals must be reported immediately to the Fairfax County Animal Services Division (ASD) at 703-691-2131 (Fax: 703-830-7806). ASD staff can assist with locating the exposing animal.
- PEP administration should be reported to FCHD using a Virginia Department of Health Confidential Morbidity Report (Epi-1 form) or by calling 703-246-2433.

²²Dyer J, et al. (2013). Rabies surveillance in the United States during 2012. *Journal of the American Veterinary Medical Association*. 243(6); 805-815.

²³CDC. (November 2012) Rabies Surveillance Data in the United States. Retrieved June 1, 2013 from <http://www.cdc.gov/rabies/location/usa/surveillance/index.html>.

²⁴CDC. Human Rabies Prevention - United States, 2008: Recommendations of the Advisory Committee on Immunization Practices. *MMWR* 2008; 57(No. RR-3):1-27.

Lyme and other Tick-borne Diseases

Over the last decade, the incidence of tick-borne diseases has increased steadily in Virginia and the U.S. as people increasingly live, play, and work in formerly uninhabited wilderness areas where ticks and their animal hosts live. Tick-borne pathogens (bacteria, viruses, and parasites) infect tens of thousands of U.S. residents each year. The epidemiologies of specific tickborne diseases reflect the geographic distribution and seasonal activity of the transmitting tick species.²⁵ In Virginia and the U.S., the most commonly reported tickborne illness is Lyme disease, followed distantly by spotted fever group rickettsiosis, ehrlichiosis, and anaplasmosis.

- Although tick-borne disease cases are reported geographically throughout Fairfax County, certain regions (based on home address) have a higher incidence rate of disease (Figure 12). However, cases are reported from all areas and all Fairfax County residents should be considered at risk of infection.
- Between 2000 and 2010, Fairfax County experienced nearly a 13-fold increase in the number of reported cases of Lyme disease, from 19 cases in 2000 to 246 cases in 2010. The number of reported cases has remained fairly steady the last two years, with 146 and 149 cases reported in 2011 and 2012, respectively.
- When examining the seasonality of Lyme disease, although reported throughout the year, the incidence is highest during the early summer months when the number and activity of nymphal *Ixodes scapularis* ticks, the primary vectors for human disease, is highest (Figure 13).

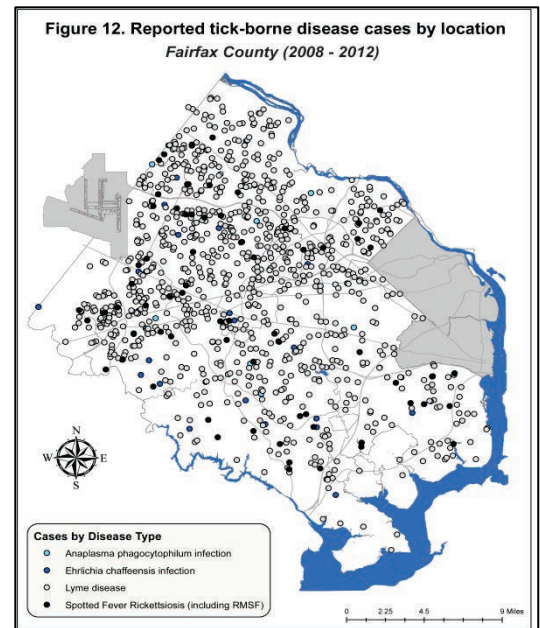
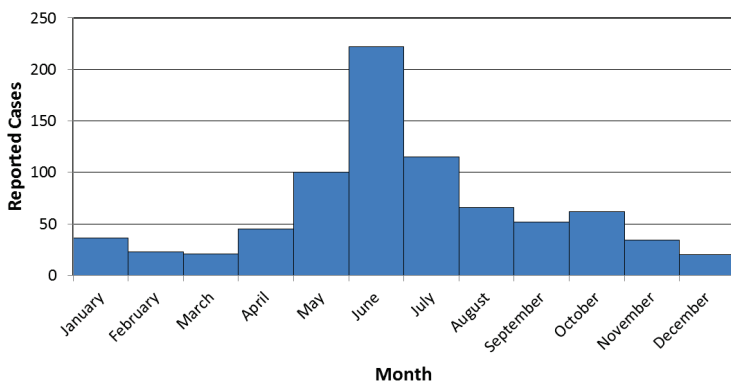


Figure 13. Lyme disease cases by month of illness onset, Fairfax County 2008-2012



- The incidence of spotted-fever group rickettsiosis (including Rocky Mountain spotted fever) in Fairfax County has increased over the past decade, but has remained consistently lower than the rate for the rest of Virginia. In 2012, 26 cases of spotted fever group rickettsiosis were reported to FCHD, representing a 30% increase in cases compared to 2011. A similar increase was seen at the State level. No spotted fever group rickettsiosis deaths were reported in Fairfax County in 2012.
- The incidence of ehrlichiosis and anaplasmosis in Fairfax County has fluctuated over the last decade but remained near or below the rate for the rest of Virginia. In 2012, a combined total of 6 cases of ehrlichiosis and anaplasmosis were reported to FCHD, representing a 65% decrease in the burden of these two diseases compared to 2011.

Clinician Pearls

- Avoiding tick bites and promptly removing attached ticks remain the best disease prevention strategies. When prevention fails, early recognition and prompt treatment of patients with tickborne diseases can help avoid potentially severe complications. The CDC recently released the first edition of Tickborne Diseases of the United States-A Reference Manual for Health Care Providers which provides disease specifics with photos, identification of ticks with photos, lab and treatment information. It can be found online at <http://www.cdc.gov/lyme/resources/TickborneDiseases.pdf>
- Maintain a high index of suspicion for Lyme and other tickborne diseases in all patients presenting with clinically compatible signs and symptoms. Note that a significant proportion of patients with Lyme disease never develop an erythema migrans rash. Laboratory testing can be an important aid in diagnosing a tickborne disease. However, Lyme disease patients tested within the first few weeks of illness may not have developed antibodies and may test negative.
- All suspected Lyme disease cases should be reported to FCHD. For surveillance purposes, the CDC Lyme Disease case definition requires clinical and laboratory evidence of infection (i.e. 2-tier testing with EIA and Westernblot).
 - Necessary clinical evidence includes Lyme-associated signs and symptoms (e.g. erythema migrans rash, arthritis, or Bell's palsy) and date of symptom onset.
 - Necessary laboratory evidence includes positive or equivocal results from ELISA (or IFA) serology and positive Western Blot IgM serology if the blood was drawn within 30 days of onset OR positive Western Blot IgG serology alone if blood was drawn more than 30 days after onset.
 - Note that the CDC case criteria are for surveillance purposes and not necessarily for clinical diagnosis.
- The Code of Virginia was recently amended by adding a section which states that as of July 1, 2013, "every licensee or his in-office designee who orders a laboratory test for the presence of Lyme disease shall provide to the patient or patient's legal representative" certain information. (Code 54.1-2963.2 link- <http://leg1.state.va.us/cgi-bin/legp504.exe?131+ful+CHAP0215>)
- FCHD provides tick identification services to residents and healthcare providers. For information regarding the submission of a tick, please visit <http://www.fairfaxcounty.gov/hd/westnile/tick-id.htm> or call 703-246-2300.

²⁵CDC. Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichiosis, and anaplasmosis – United States. MMWR 2006; 55 (No. RR-4).

Travel-Associated Diseases

In 2011, U.S. residents made more than 60 million trips with at least one night spent outside the U.S. Travel-related health problems occur commonly among individuals traveling to developing nations. Between 22% and 64% of these travelers self-report health issues, mostly mild illnesses such as diarrhea, respiratory infections, and skin disorders. Approximately 8% of travelers to developing regions are sick enough to seek care either abroad or upon returning home.²⁶

Fairfax County is an immigrant gateway with a diverse population and in addition, Dulles Airport reported greater than 6 million international travelers in 2012, resulting in a higher burden of travel-associated illnesses among Fairfax residents.

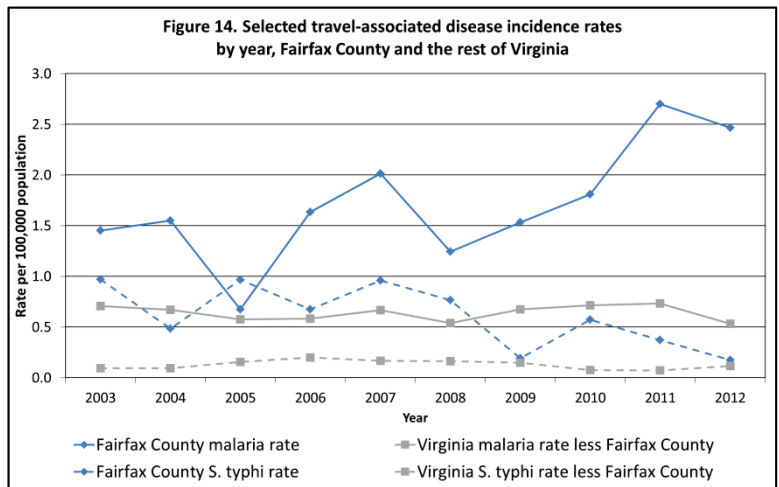


Table 3. Countries for internationally-imported travel-related diseases, Fairfax County 2009-2012

Region	Dengue fever (n=16)	Malaria (n=92)	Salmonella typhi (n=12)
Africa (unspecified)	0.0%	12.0%	0.0%
Caribbean	31.3%	0.0%	0.0%
Central Africa	0.0%	3.3%	0.0%
East Africa	0.0%	12.0%	0.0%
Mexico and Central America	18.8%	0.0%	0.0%
South Asia	18.8%	15.2%	75.0%
Southeast Asia	6.3%	0.0%	0.0%
Tropical South America	25.0%	2.2%	0.0%
West Africa	0.0%	51.1%	0.0%
Unknown	0.0%	4.3%	25.0%

- The incidence of internationally-imported malaria among Fairfax residents has increased over the past decade and is now higher than that seen for the rest of Virginia (Figure 14). In 2012, 28 malaria cases were identified among residents, representing an 86% increase in cases since 2003. Among the 2009-2012 County cases for which information on the infecting species was available (n=69), 78.0% were caused by *Plasmodium falciparum*, 15.0% by *P. vivax*, 4.0% by *P. malariae*, and 3.0% by *P. ovale*. Among cases for which information on chemoprophylaxis was available (n=76), only 29% of infected individuals reported taking any malaria chemoprophylaxis prior to or during travel. The most commonly reported travel regions for cases included West Africa (51.1%), South Asia (15.2%), and East Africa (12.0%) (Table 3).

- Between 2009 and 2012, 14 typhoid fever (*Salmonella typhi*) cases were identified among Fairfax County residents, accounting for 33.3% of all Virginia cases. Two of these Fairfax County cases occurred in 2012. Among 2009-2012 Fairfax County cases for which information on vaccination status was available (n=12), only one reported receiving typhoid immunization within the five years prior to onset of illness. Between 2009 and 2012, 9 infected individuals reported information on travel; all 9 reported travel to South Asia.
- Between 2009 and 2012, 15 cases of internationally-imported dengue fever have been identified among Fairfax County residents, accounting for 37.1% of all Virginia cases. Six of these cases occurred in 2012. The most commonly reported travel regions for 2009-2012 dengue fever cases included the Caribbean (31.3%) and tropical South America (25.0%).

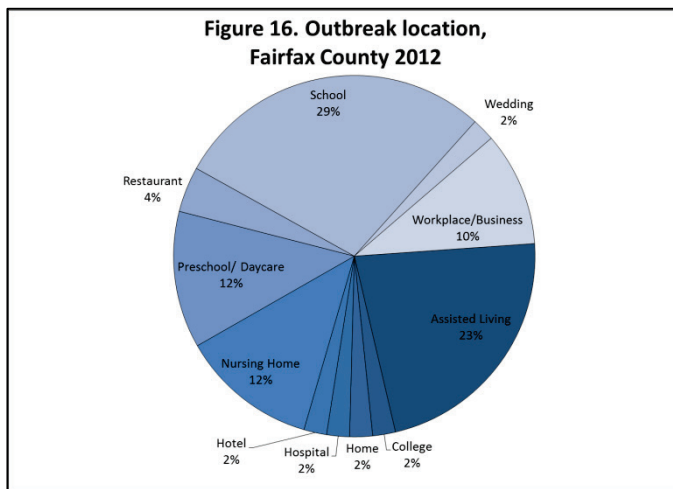
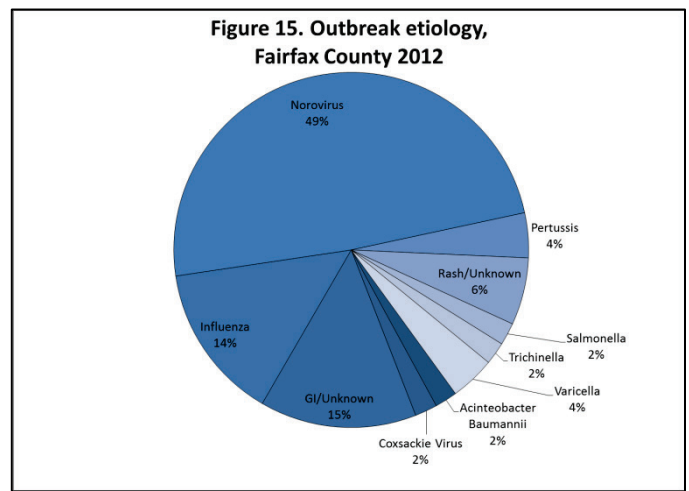
Clinician Pearls

- Incorporate pre-travel care into your practice by routinely asking patients if they are planning to travel internationally. Immigrants returning home may be at increased risk for travel-associated illness and should receive special consideration.²⁶
- Ensure appropriate pre-travel consultation either through direct provision or by referring to a travel medicine specialist. Consultation should include immunizations, chemoprophylactic medications, and behavioral preventive recommendations. For clinicians providing pre-travel care, detailed guidance is available from the CDC at <http://wwwnc.cdc.gov/travel/>. FCHD also provides international travel consultation. Clients may call 703-246-7100 to confirm service hours and locations.
- Ensure that all patients traveling internationally are fully-vaccinated against measles. Adults should have 2 doses of measles vaccine prior to travel. Children traveling internationally can be given measles vaccine as early as 6 months of age. These children should then receive measles vaccine at 12-15 months of age. Children who are older than 12 months of age and have already received one dose of vaccine should receive a second dose prior to travel. The interval between any two doses of measles-containing vaccine should be 28 days or more.
- Remember to obtain a travel history when assessing patients for infectious diseases and notify FCHD of any suspected, reportable travel-associated illnesses. *Note that immediate reporting is required for suspected cases of measles, typhoid fever, and paratyphoid fever given the need for prompt public health intervention.*
- The CDC has released interim guidance for health care professionals regarding evaluation of patients for MERS Co-V if they present with fever and pneumonia within 14 days of travel to countries in or near the Arabian Peninsula. You can find more information at <http://www.cdc.gov/coronavirus/mers/hcp.html> or call the health department at 703-246-2433.

²⁶CDC. CDC Health Information for International Travel 2012. New York: Oxford University Press; 2012.

Outbreak Summary, 2012

Disease outbreaks are defined as clusters of illness that occur in a similar time or place, with case numbers above expected for a specified population or location (e.g., school, hospital, business, or other facility) or in the community as a whole. Outbreaks are most often reported by institutions with the ability to recognize an unusual incidence of disease in a group of individuals and have a procedure in place to report to the health department. For rare diseases or diseases that require significant public health response (e.g., measles, anthrax, smallpox, or diphtheria), one case constitutes an outbreak and it is an astute clinician that often identifies and reports a suspected outbreak. Suspected outbreaks of any disease should be immediately reported to FCHD. On report, the health department's CD/Epi Unit verifies the existence of the outbreak; conducts an investigation to determine the causative agent; facilitates specimen collection and laboratory testing; and recommends and/or implements appropriate infection control measures to limit the spread of disease. When necessary, enhanced or active surveillance methods are utilized.



When necessary, enhanced or active surveillance methods are utilized.

- In 2012, FCHD investigated 49 outbreaks of illness that originated within Fairfax County and participated in numerous outbreak investigations that originated in nearby jurisdictions. The Health Department also conducted over 60 significant contact investigations related to individual cases of disease (e.g., meningococcal disease, pertussis, and typhoid fever).
- Of the 2012 outbreaks originating in Fairfax County, norovirus was identified as the causative agent in 49.0% and influenza in 14.0% (Figure 15). The most common outbreak investigation settings were long-term care facilities (34.7%) and schools (28.6%) (Figure 16).

Norovirus Update

- In March 2012, a new GII.4 norovirus strain was identified. Named GII.4 Sydney, this emergent strain has since caused acute gastroenteritis outbreaks and appears to have replaced the previously predominant strain. Compared with other genotypes, GII.4 has been associated with increased rates of hospitalizations and deaths during outbreaks.²⁷
- Among laboratory confirmed norovirus outbreaks in 2012, the GII.4 strain was identified in 10% of norovirus outbreaks reported in Virginia and 20% of norovirus outbreaks reported in Fairfax County.
- Of the 24 norovirus outbreaks investigated in 2012, 56% occurred in long-term care facilities, and the remainder in other community settings. The median number of cases associated within each outbreak was 28.5 (range 11 – 305 cases) and a total of 1086 infected individuals were identified. The average length of these outbreaks was approximately 21 days (range 6 – 55 days).
- Infected individuals typically exhibited short durations of illness (24 – 48 hours), incubation periods of 12 – 60 hours, and high incidence of vomiting (>50 percent of infected individuals).

Clinician Pearls

- Immediately report suspected outbreaks of any disease to FCHD.
- To help limit the spread of norovirus, the agent most commonly associated with disease outbreaks in Fairfax County, clinicians should recommend the following for all patients:
 - Frequent and proper hand washing with soap and water. Alcohol-based hand sanitizers ($\geq 62\%$ ethanol) may be helpful as an adjunct method of hand hygiene;
 - Avoidance of ill individuals and self-exclusion at home and away from others for at least 24 hours after the resolution of diarrhea and vomiting (48 hours for healthcare professionals);
 - Frequent and thorough cleaning using a chlorine bleach solution, or other commercial product registered with EPA as effective against norovirus, can also help interrupt the disease transmission cycle during norovirus outbreaks.
- FCHD has educational materials available on proper food handling and handwashing practices, which are keys to preventing communicable disease outbreaks, at <http://www.fairfaxcounty.gov/hd/food/foodtrain.htm>. Posters are also available as part of a broader handwashing campaign for posting in physician offices, restaurants, and public bathrooms at <http://www.fairfaxcounty.gov/hd/handwashing/>.

²⁷CDC. Notes from the Field: Emergence of New Norovirus Strain GII.4 Sydney — United States, 2013. MMWR 2013; 62(03) (No.55-55).



Fairfax County Health Department Communicable Disease/Epidemiology Unit



Contact Information

Communicable Disease/Epidemiology Unit

(for all communicable disease reports & guidance during business hours)

703.246.2433 • TTY 711

FAX 703.385.3681

Communicable Disease Hotline

Health care providers should call 703-246-2433 to obtain the Communicable Disease Hotline number for reporting on weekends and evenings

Fairfax County Public Health Laboratory

703.246.3218 • TTY 711

FAX 703.591.3641

Rabies Program

(for all rabies reports & guidance during business hours)

703.246.2433 • TTY 711

FAX 703.385.3681

Rabies Hotline

Health care providers should call 703-246-2433 to obtain the Rabies Hotline number for reporting on weekends and evenings

FCHD Communicable Disease Services

Communicable Disease Surveillance and Investigation	<ul style="list-style-type: none"> FCHD conducts communicable disease surveillance and investigation with the goal of reducing morbidity and mortality within the community. When cases or outbreaks of disease are reported or identified, FCHD staff: <ul style="list-style-type: none"> Provide infection control guidance to clinicians, facilities, and infected individuals; Identify exposed individuals and provide guidance regarding disease prevention, including recommendations for the administration of prophylaxis (if appropriate).
Rabies	<ul style="list-style-type: none"> Rabies program staff provides guidance regarding rabies exposure assessment and PEP administration 24 hours a day. FCHD Laboratory provides animal rabies testing for human or domestic animal exposures.
Tuberculosis	<ul style="list-style-type: none"> Tuberculosis program staff provides clinical guidance regarding TB diagnosis and treatment. Free laboratory testing, chest x-rays, medications, and case management services are provided for all Fairfax County residents.
HIV/AIDS	<ul style="list-style-type: none"> Free HIV testing (including anonymous option) and HIV harm-reduction counseling is available through FCHD walk-in clinics and STD clinics. Clients may visit http://www.fairfaxcounty.gov/hd/hiv-testing-aids/ or call 703-246-2411 for service hours. HIV/AIDS program staff coordinates HIV/AIDS treatment, including treatment obtained through the AIDS Drug Assistance Program.
STD	<ul style="list-style-type: none"> STD testing and treatment are available free of charge at each of the five FCHD district offices. Clients may visit http://www.fairfaxcounty.gov/hd/std-clinic-sched.htm or call 703-246-2411 to confirm service hours. STD program staff provides partner notification services for reported STD cases.
Laboratory	<ul style="list-style-type: none"> FCHD laboratory conducts testing in support of communicable disease investigations including testing for TB, HIV, STDs, enteric pathogens, and rabies virus.
Outreach	<ul style="list-style-type: none"> FCHD provides educational outreach regarding communicable disease prevention and control throughout the Fairfax Community.

Fairfax County Health Department
Communicable Disease/Epidemiology Unit
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Fairfax, VA 22030

Fairfax County Health Department
2012 Communicable Disease Summary



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