Prince William
Health District

2013 Annual Report

Communicable Disease Report to Providers

District Public Health Communicable Disease Program -

Annual Summary of Reported Conditions

(Serving Prince William County and the cities of Manassas and Manassas Park)

Supplemental Information for Interpretation of Report (Explanation of data sources) i
Introduction 1
Prince William Health District Contacts 1
Summary of Select Reportable Diseases 2
Foodborne Illness 3
Sexually Transmitted Infections (STI) 4
2009-2013
-2013
Tuberculosis (TB) 4
-2013)
Vaccine Preventable Conditions 5
-2013
-2013
-2013
Outbreaks 6
-2013
-2013
Virginia Department of Health Reportable Disease List 7
FAQ: Disease Reporting for Medical Providers 8
References/Additional Resources for Providers 9

***Case Counts/Incidence Rates included in this document are based on disease reports meeting confirmed or probable case status. Rates are representative of reported cases and do not capture those cases which were subclinical or unreported.**

† Morbidity data was obtained from The Virginia Electronic Disease Surveillance System (VEDSS) Core Case Data Reports and/ or the VDH Office of Epidemiology, Division of Surveillance and Investigation, Tables of Selected Reportable Diseases in Virginia by ear of Report which can be found at: http://www.vdh.virginia.gov/Epidemiology/Surveillance/SurveillanceData/index.htm

‡Population estimates were obtained from U.S. Census figures (Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013 and Annual Estimates of the Resident Population for Counties of Virginia: April 1, 2000 to July 1, 2009, Source: U.S. Census Bureau, Population Division) which can be found at: . Incidence rates were calculated based on U.S. Census Estimates for the stated year(s).

¶ Sexually Transmitted Infections: Early Syphilis includes diagnoses of primary, secondary and early latent syphilis / HIV disease includes newly reported HIV infection regardless of disease progression and includes people with AIDS.

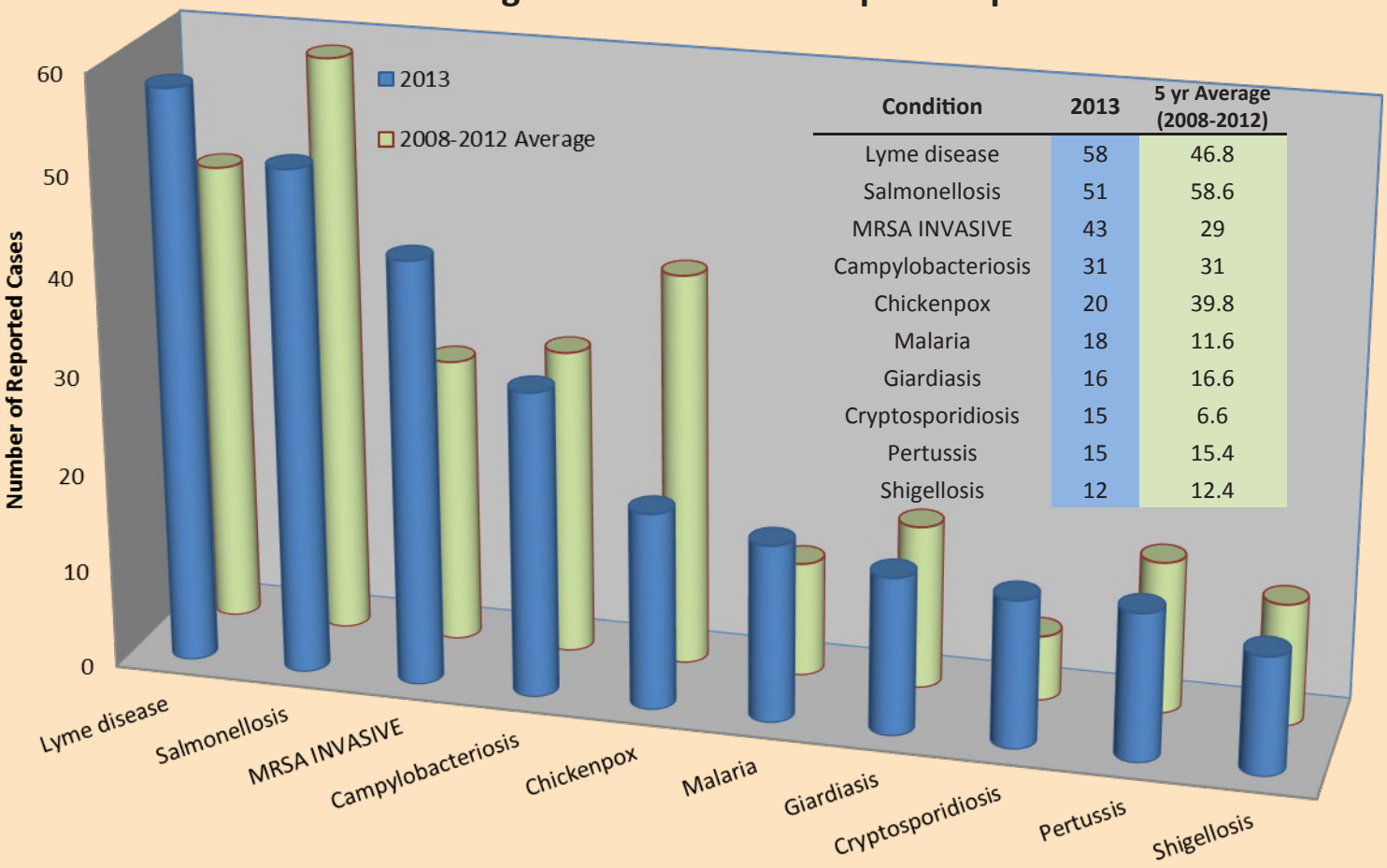
| Northern Virginia Region/NOVA includes: Alexandria City, Arlington County, Fairfax (Fairfax County, Cities of Fairfax and Falls Church), Loudoun County, and Prince William (Prince William County, Cities of Manassas & Manassas Park) Health Districts

Return to Table of Contents

Prince William Health District Disease Surveillance Summary

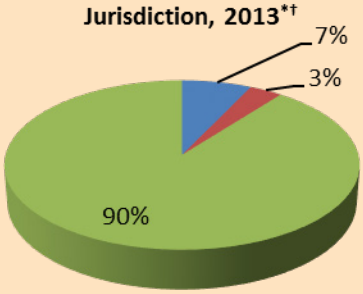
Disease surveillance and investigation activities throughout the Prince William Health District (PWHD) are conducted in accordance with the Virginia Reportable Disease Regulations and Nationally Notifiable Disease Surveillance System. With approximately 1195 reports investigated locally, excluding sexually transmitted infections (STIs) and Tuberculosis (TB), and nearly 500 of those determined to meet probable or confirmed public health surveillance definitions during 2013, PWHD continuously monitors for trends affecting the health of the community.

Figure1. PWHD 2013 Top 10 Reportable Conditions[§*†]



Condition	2013	5 yr Average (2008-2012)
Lyme disease	58	46.8
Salmonellosis	51	58.6
MRSA INVASIVE	43	29
Campylobacteriosis	31	31
Chickenpox	20	39.8
Malaria	18	11.6
Giardiasis	16	16.6
Cryptosporidiosis	15	6.6
Pertussis	15	15.4
Shigellosis	12	12.4

Figure 2. Percent of Reported Cases by Jurisdiction, 2013[*†]



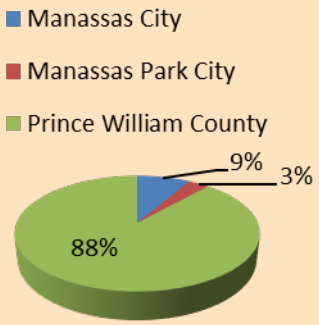


Figure 3. Percent of Health District Population by Jurisdiction, 2013[‡]

Figure 2 and *Figure 3* demonstrate that the cases of reported diseases are distributed throughout the district consistent with population distribution in the three jurisdictions.

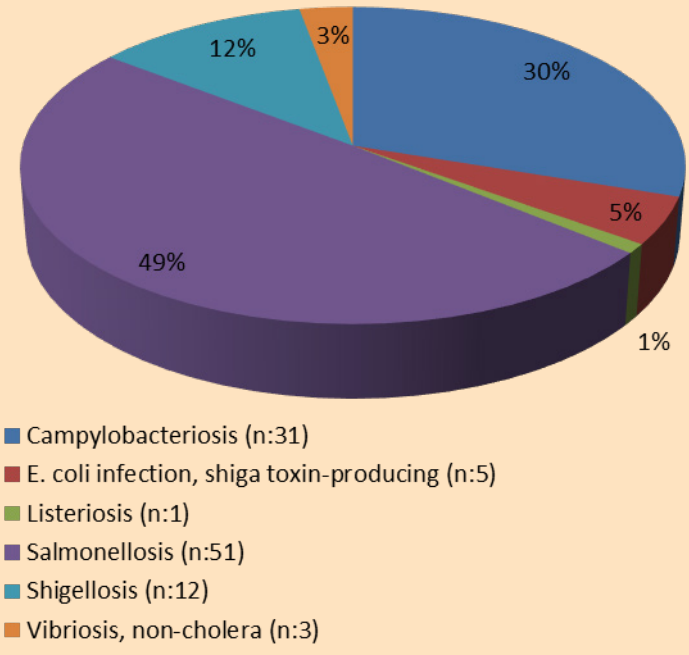
Figure 1 Illustrates the top ten reported conditions affecting PWHD in 2013 and their mean (average) counts for the previous five years.[§] While many of these conditions have remained relatively consistent, the numbers demonstrate several opportunities for collaboration between PWHD and the local medical community to promote health through disease prevention programs. Awareness in the community about the importance of vaccinations would have a positive impact on several of these conditions including pertussis and chickenpox which have consistently been among the top ten conditions for the district since 2010. Additionally, education regarding disease prevention during international travel, such as safe food practices as well as prophylactic medications or immunizations (when indicated), could aid in reducing the importation of some conditions identified in *Figure1,* including malaria which was sixth on the list for 2013.

[§]Excludes Chronic Hepatitis, STI, and TB

Return to Table of Contents

Foodborne Illness

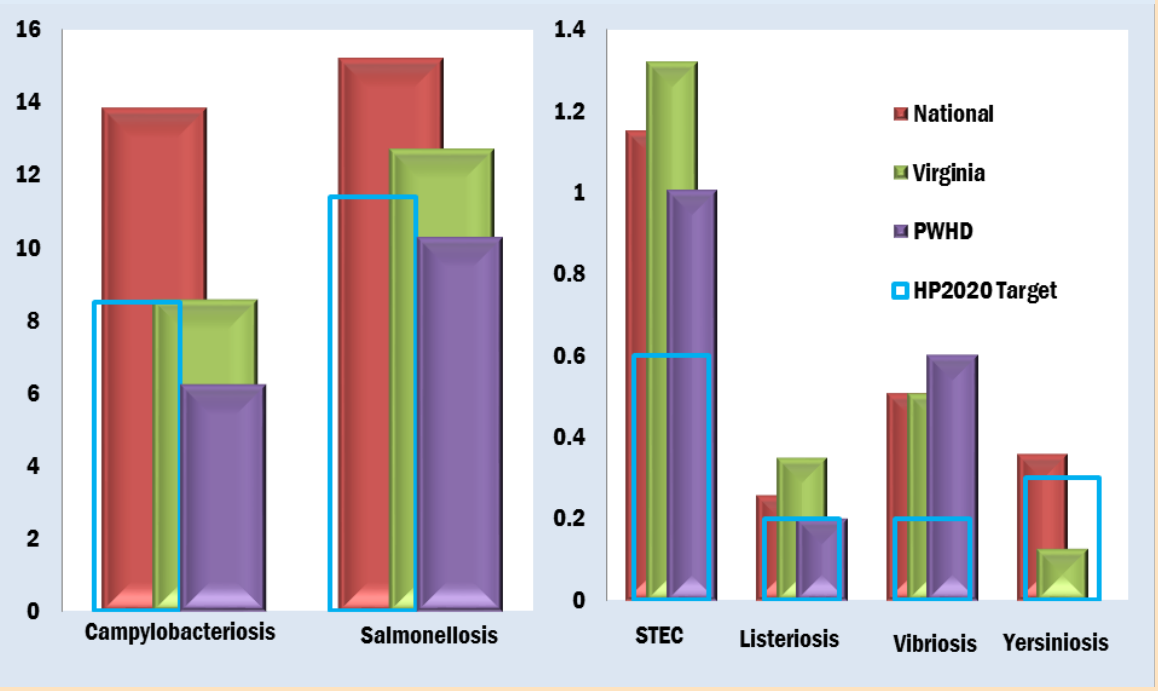
Figure 4. Selected Enteric Conditions PWHD 2013*†



Investigation and prevention of foodborne illnesses within the community are two primary responsibilities of PWHD. Whether responding to an individual report or an outbreak of illness, the public health investigation aims to implement interventions which limit disease transmission and promote healthy behaviors. Through the inspection of food service establishments and oversight of on-site well/septic programs, PWHD technical specialists enforce regulations designed to reduce risk to consumers and the environment. The CDC estimates that 1 in 6 Americans (48 million people) get sick, 128,000 are hospitalized, and 3,000 die each year of foodborne diseases.[1] *Figure 4* illustrates that, in 2013, nearly 80% of reported bacterial enteric conditions were predominantly attributable to two pathogens: *Salmonella* species (49%) and *Campylobacter* species (30%).

Surveillance efforts at the local, regional, and national levels are all utilized to determine the burden of illness as well as identify goals for prevention. Monitoring trends allows specific interventions to be identified, implemented, and disseminated to the community. With a Healthy People 2020 (HP2020) focus topic of food safety, one measurable objective includes the reduction of infections by key pathogens^ known to commonly be transmitted through food.[2]

Figure 5. 2013 Incidence of Key Foodborne Pathogens*†‡^



In 2013, Prince William Health District successfully reached the Healthy People 2020 target goals for four out of six key pathogens and remained below the national and statewide rates for five out of six of the key pathogens^: (*Figure 5*)

RATE PER 100,000	Campylobacteriosis	Salmonellosis	STEC (E. coli infection, shiga toxin-producing)	Listeriosis	Vibriosis (non-cholera)	Yersiniosis
HP2020 Target:	8.5	11.4	0.6	0.2	0.2	0.3
National[3]:	13.82	15.19	1.15	0.26	0.51	0.36
Virginia:	8.58	12.69	1.32	0.35	0.51	0.13
PWHD:	**6.24**	**10.27**	**1.01**	**0.20**	**0.60**	**0.00**

^Key pathogens: *Campylobacter* species, Shiga toxin-producing *Escherichia coli* (STEC) 0157, *Listeria monocytogenes, Salmonella* species, *Vibrio* species, & *Yersinia* species.

Return to Table of Contents

Sexually Transmitted Infections

Figure 6.
Proportion of Reported STI Cases by Condition PWHD, 2009-2013*†

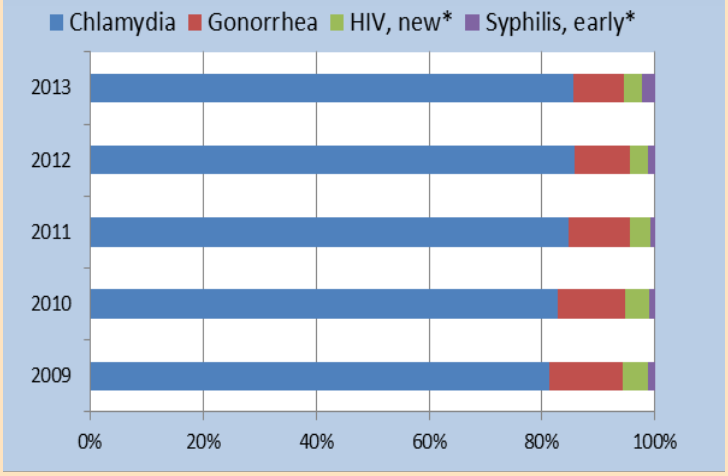
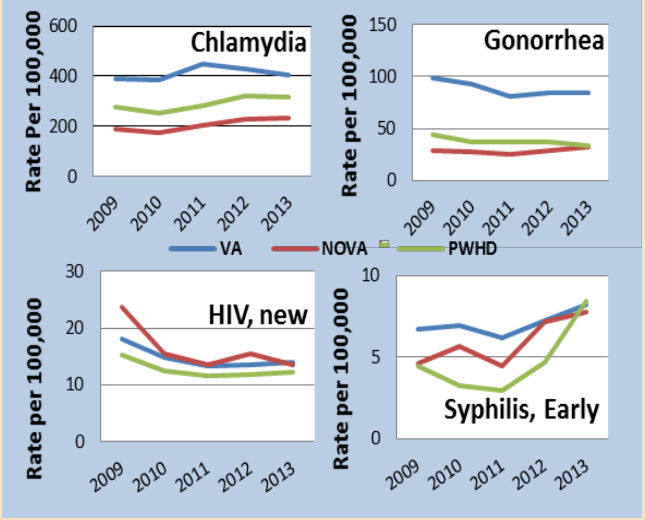


Figure 7. Comparison of Reported STI Incidence 2009-2013*†‡¶|



Sexually Transmitted Infections (STI) across the district have remained fairly consistent when compared to the northern Virginia region[|] and state. *Figure 6* illustrates the annual proportion of each type of reportable STI based on counts of cases reported for district residents. This visual helps to assess the overall burden of each infection when STIs are compared as a condition group. As seen above, Chlamydia and Gonorrhea have consistently accounted for the largest proportion of reported STIs across the district; however, reports of early Syphilis[¶] infections have increased in 2013 and now account for a larger segment of reported STIs than in any of the prior years included in this analysis. In contrast to comparing numbers of reported infections, comparing incidence rates accounts for the district's population growth and the resulting relational increases in cases of illness (as reflected in *Figure 7).* PWHD has had a 16% increase in estimated population since 2009; numbers of reported Chlamydia have increased by 33% during this same time period. However, by assessing the numbers of reported cases in relation to the population, the incidence rate provides a more reliable indicator of disease burden in the community. In 2013, Chlamydia had an incidence rate of 318.3/100,000 people which demonstrated a 15% increase in the incidence since 2009. The rate of reported Gonorrhea infections has dropped over this period from 44.2/100,000 in 2009 to 33.2/100,000 in 2013 (25% decline). Conversely, the rate of reported early syphilis has nearly doubled from 4.4/100,000 in 2009 to 8.5/100,000 in 2013 (93% increase). *Figure 7* compares the STI rates locally to those in the NOVA[|] and Statewide.

Figure 8. TB Case Rates per 100,000 (2009-2013)*†‡|

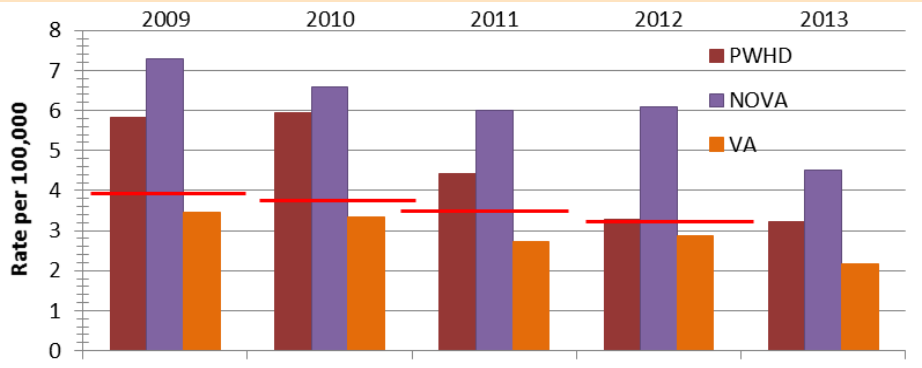


Figure 9. PWHD 5 year Trend TB Case Counts*†

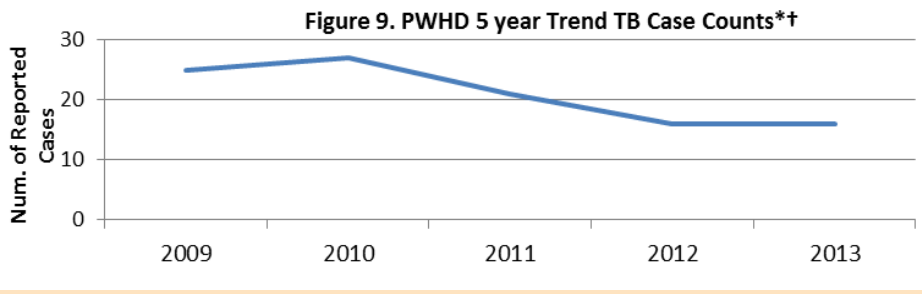
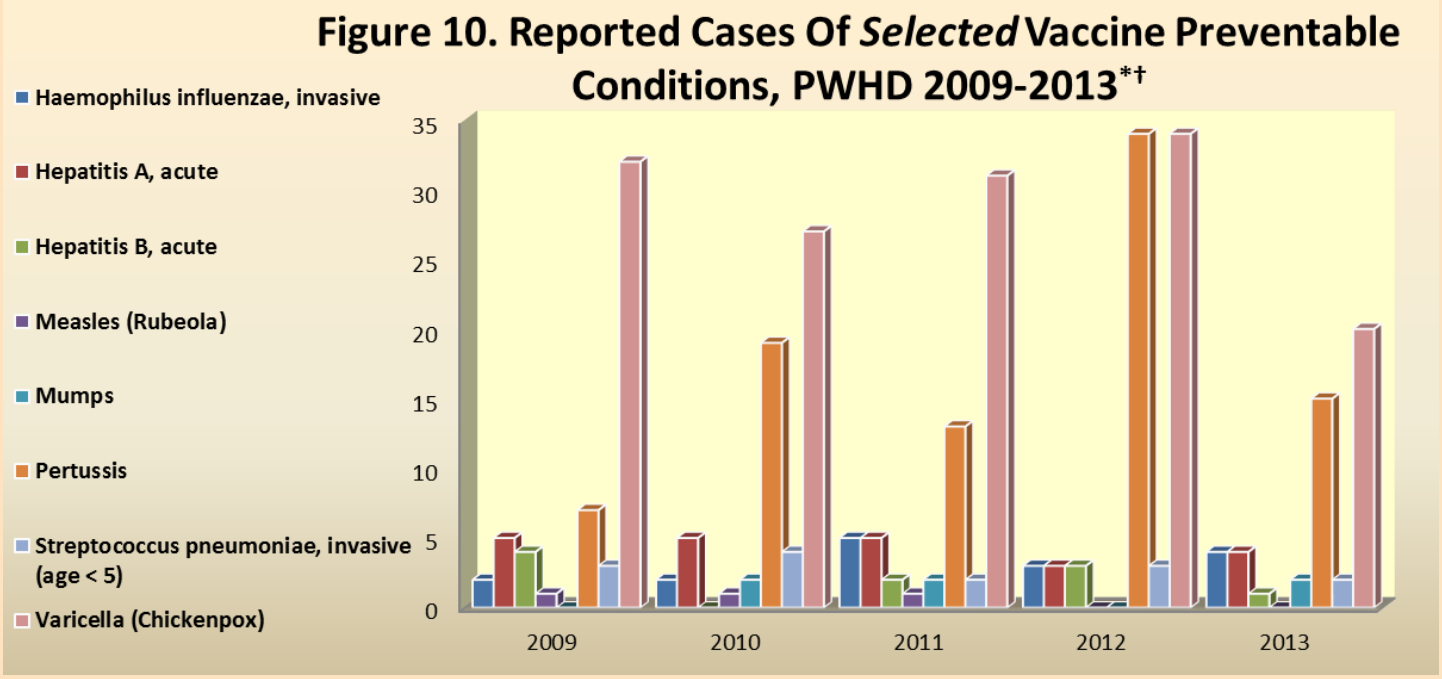


Figure 9 illustrates the decline of reported cases for the district in 2013; however, these figures do not include cases transferred into PWHD and also do not reflect the emergence of much more complex patients including those with extrapulmonary infections and those with various complicating co-morbidities.

Tuberculosis

According to CDC, rates and cases of Tuberculosis (TB) have declined in the U.S.; however, it is estimated that one third of the world is infected with TB and 1.3 million deaths world-wide were related to TB in 2012.[4] Although there has been a decline nationally, tuberculosis continues to be a significant contributor to morbidity and mortality both locally and internationally resulting in the establishment of a HP2020 objective to reduce TB to an incidence rate of 1.0/100,000.[5] *Figure 8* illustrates the annual incidence of TB locally, regionally, and statewide for the past five years. Although TB rates are decreasing, both PWHD and Northern Virginia's[|] rates have consistently remained above the state and national levels and are predominated by caseloads comprised of foreign-born persons.

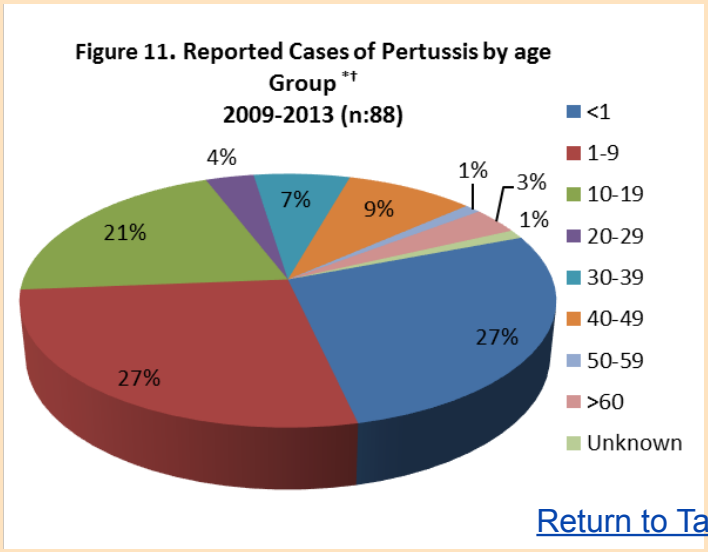
Return to Table of Contents

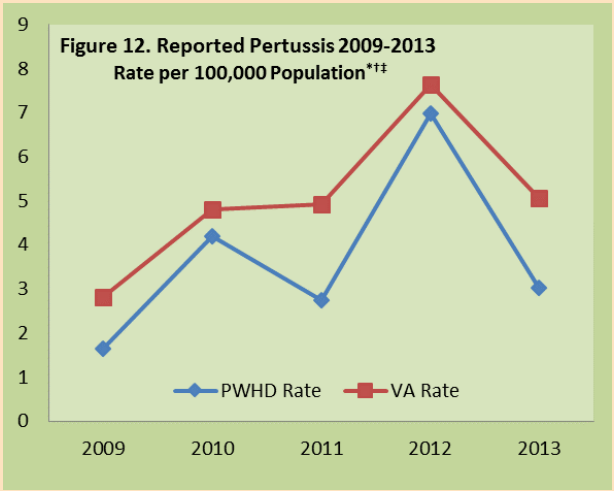


A consistent focus of public health efforts, including those within PWHD, is the improvement of community health through prevention and health education. Immunizations are a primary method utilized in the prevention of numerous communicable diseases. By improving immunization coverage and adherence to recommended schedules, rates of preventable diseases have dramatically declined when compared to pre-vaccine era estimates of diseases and deaths.[7] Since the 2010 implementation of a required second varicella vaccine dose prior to kindergarten entry, the reported number of Chickenpox cases among 6-10 year olds dropped from 13 cases in 2009 to just 3 cases in 2013. It would be inaccurate to imply that the decrease in reports of Chickenpox are a direct result of the revised immunization recommendations; however, it is valid to consider the second dose requirement as a contributing factor in reducing varicella transmission. Over the past five years, PWHD has had an average of 61 cases of vaccine-preventable diseases reported annually (excluding influenza). This average falls far below that of other communicable disease categories such as foodborne and sexually transmitted diseases. The sustainment and improvement of immunization coverage rates effectively protects the health of the community by reducing the number of susceptible individuals which subsequently reduces transmission among community residents.

Pertussis

A highly infectious respiratory disease of continued significance is "whooping cough," or pertussis. As evidenced in *Figure 12,* PWHD's 2013 incidence rate of pertussis declined when compared to a peak, which also occurred both statewide and nationally, in 2012. However, both local (PWHD) and Virginia reports of pertussis continue to remain above lows seen in 2007 when rates were less than 1 case per 100,000 in the district. Over the past five years, 75% of reported cases have occurred in pediatric age groups, 0-19 years (*Figure 11*). Continued diligence in routinely offering and administering age appropriate DTaP or Tdap vaccine remains a primary recommendation to limit pertussis transmission in the community.





Return to Table of Contents

Outbreaks

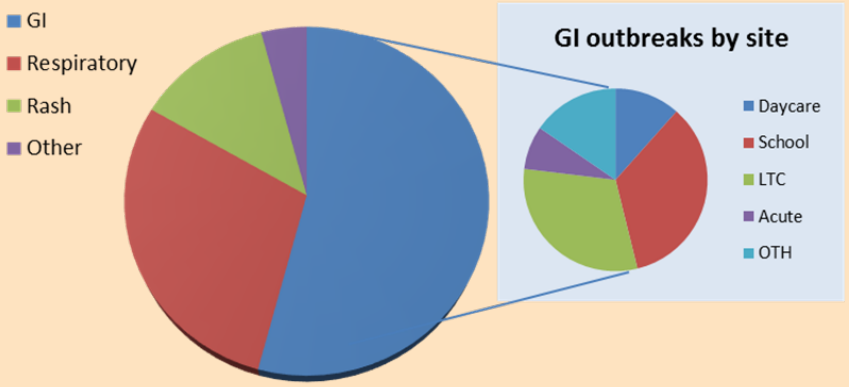
What is an Outbreak?

An outbreak is the occurrence of more cases of disease than expected. There is no strict definition of an outbreak or specific number of cases that need to occur to be considered an outbreak. Therefore, any unusual level of activity of any illness that may be spread from one person to another or that may be caused by a common exposure should be reported.[8]

Who is required to report an outbreak?

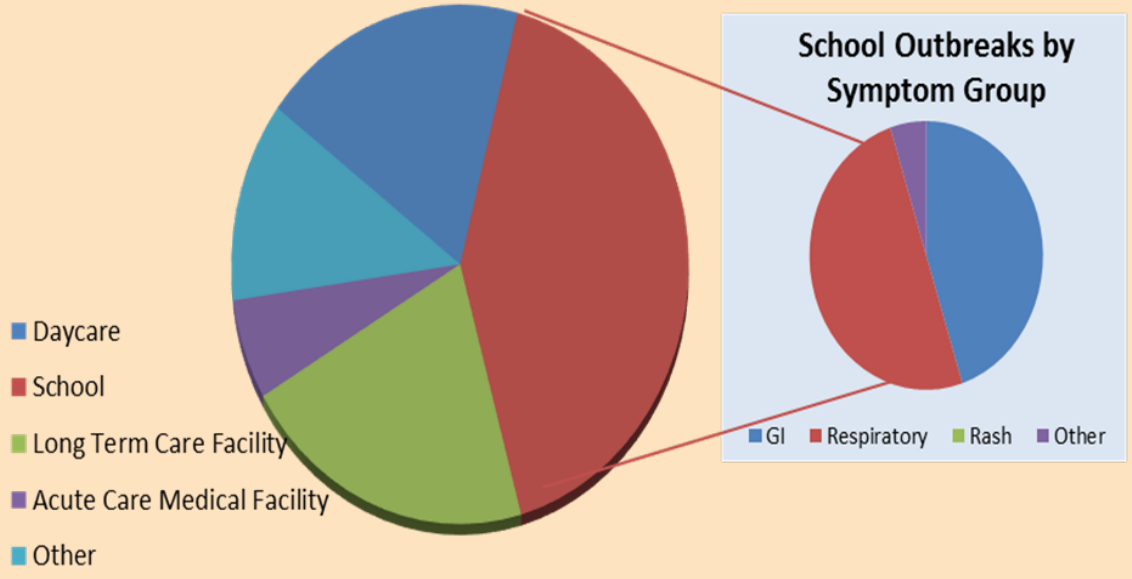
Section 32.1-37 of the *Code of Virginia* requires certain facilities and programs to report outbreaks to the local health department. The person in charge of any residential or day program, service, or facility licensed or operated by any agency of the Commonwealth, school, or summer camp is required to report. This includes child care facilities, assisted living facilities, correctional and other detention facilities, mental health programs, and other group settings where outbreaks of illness may occur. Facilities licensed by the health department (hospitals and nursing homes) as well as physicians and directors of laboratories are also required to report diseases to the health department.[8]

Figure 13. PWHD Oubreaks by Symptom Group 2011-2013



In 2013, PWHD investigated a total of 12 reported outbreaks. This compares to 23 reported in 2012 and 13 reported in 2011. *Figure 13* and *Figure 14* reveal that gastrointestinal (54%) and respiratory (29%) conditions dominated as the most frequently occurring outbreak complaints during the three previous years. Additionally, schools accounted for 42% of outbreak reports from 2011-2013 followed by long term care facilities at 21% and daycare facilities at 19%.

Figure 14. PWHD Outbreaks by Site, 2011-2013



2013: Nearly 60% of outbreaks reported in 2013 were suspected or confirmed to be due to Norovirus (7 out of 12). Influenza, MRSA, Head Lice (Pediculosis), and Enterovirus were the other suspected or confirmed agents responsible for the remaining five outbreak reports investigated in 2013.

Return to Table of Contents

Virginia Reportable Disease List

Reporting of the following diseases is required by state law (Sections 32.1-36 and 32.1-37 of the *Code of Virginia* and 12 VAC 5-90-80 and 12 VAC 5-90-90 of the Board of Health *Regulations for Disease Reporting and Control* - http://www.vdh.virginia.gov/epidemiology/regulations.htm). Report all conditions when suspected or confirmed to your local health department within three days, except those listed in **RED**, which must be reported immediately by the most rapid means available.

Acquired immunodeficiency syndrome (AIDS)
Amebiasis
ANTHRAX
Arboviral infection (e.g., dengue, EEE, LAC, SLE, WNV)
BOTULISM
BRUCELLOSIS
Campylobacteriosis
Chancroid
Chickenpox (Varicella)
Chlamydia trachomatis infection
CHOLERA
Creutzfeldt-Jakob disease if <55 years of age
Cryptosporidiosis
Cyclosporiasis
DIPHTHERIA
DISEASE CAUSED BY AN AGENT THAT MAY HAVE BEEN USED AS A WEAPON
Ehrlichiosis/Anaplasmosis
^ *Escherichia coli* infection, Shiga toxin-producing
Giardiasis
Gonorrhea
Granuloma inguinale
***HAEMOPHILUS INFLUENZAE* INFECTION, INVASIVE**
Hantavirus pulmonary syndrome
Hemolytic uremic syndrome (HUS)
HEPATITIS A
Hepatitis B (acute and chronic)
Hepatitis C (acute and chronic)
Hepatitis, other acute viral
Human immunodeficiency virus (HIV) infection
Influenza
(report **INFLUENZA A, NOVEL VIRUS** immediately)
INFLUENZA-ASSOCIATED DEATHS IN CHILDREN <18 YEARS OF AGE
Lead, elevated blood levels
Legionellosis
Leprosy (Hansen disease)
Listeriosis
Lyme disease
Lymphogranuloma venereum
Malaria
MEASLES (RUBEOLA)
MENINGOCOCCAL DISEASE
MONKEYPOX
Mumps
MYCOBACTERIAL DISEASES (INCLUDING AFB), (IDENTIFICATION OF ORGANISM) AND DRUG SUSCEPTIBILITY
Ophthalmia neonatorum
OUTBREAKS, ALL (including but not limited to foodborne, healthcare-associated, occupational, toxic substance-related, and waterborne)
PERTUSSIS
PLAGUE
POLIOVIRUS INFECTION, INCLUDING POLIOMYELITIS
PSITTACOSIS
Q FEVER
RABIES, HUMAN AND ANIMAL
Rabies treatment, post-exposure
RUBELLA, INCLUDING CONGENITAL RUBELLA SYNDROME
Salmonellosis
SEVERE ACUTE RESPIRATORY SYNDROME (SARS)
Shigellosis
SMALLPOX (VARIOLA)
Spotted fever rickettsiosis
Staphylococcus aureus infection, invasive methicillin-resistant (MRSA) 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 (report **PRIMARY** and **SECONDARY** immediately)
Tetanus
Toxic substance-related illness
Trichinosis (Trichinellosis)
TUBERCULOSIS (TB), ACTIVE DISEASE
Tuberculosis infection in children <4 years of age
TULAREMIA
TYPHOID/PARATYPHOID FEVER
UNUSUAL OCCURRENCE OF DISEASE OF PUBLIC HEALTH CONCERN
VACCINIA, DISEASE OR ADVERSE EVENT
***VIBRIO* INFECTION**
VIRAL HEMORRHAGIC FEVER
YELLOW FEVER
Yersiniosis

These conditions are reportable by directors of laboratories. In addition, these and all other conditions except mycobacterial disease (other than TB) and invasive MRSA infection are reportable by physicians and directors of medical care facilities. Reports may be by computer-generated printout, Epi-1 form, CDC surveillance form, or upon agreement with VDH, by means of secure electronic transmission.

A laboratory identifying evidence of these conditions shall notify the local health department of the positive culture and submit the initial isolate to the Virginia Division of Consolidated Laboratory Services (DCLS) or, for TB, to DCLS or other lab designated by the Board.

^ Laboratories that use a Shiga toxin EIA methodology but do not perform simultaneous culture for Shiga toxin-producing *E. coli* should forward all positive stool specimens or positive enrichment broths to DCLS for confirmation and further characterization.

Physicians and directors of medical care facilities should 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 must be reported immediately by rapid means.

Note: 1. Some healthcare-associated infections are reportable. Contact the VDH Healthcare-Associated Infections Program at (804) 864-8141 or see 12 VAC 5-90-370 for more information.
2. Cancers are also reportable. Contact the VDH Virginia Cancer Registry at (804) 864-7866 or see 12 VAC 5-90-150-180 for more information.

Prince William Health District

To report conditions, please call 703-792-6300 or 703-792-7300

Effective March 28, 2011

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Return to Table of Contents

FAQ: Disease Reporting for Medical Providers

Prince William Health District

What are the legal requirements for physicians to report communicable diseases?
According to sections 32.1-36 and 32.1-37 of the *Code of Virginia* and 12 VAC 5-90-80 and 12 VAC 5-90-90 of the Board of Health *Regulations for Disease Reporting and Control,* state law requires the reporting of all diseases on the Virginia Reportable Disease List.

What diseases are required to be reported?
All diseases included on the Virginia Reportable Disease list, which is available at http://www.vdh.virginia.gov/epidemiology/documents/pdf/reportable_disease_list.pdf

Which health department should be contacted?
The corresponding local health department serving the city and/or county in which the medical facility is located should be the contact point for disease reporting. If the medical facility is located in Prince William County or cities of Manassas City or Manassas Park the contact is Prince William Health District and information is available at http://www.vdh.virginia.gov/LHD/PrinceWilliam/ Information on all of Virginia's health districts is available at http://www.vdh.virginia.gov/lhd/

What is the required timeframe for providers to submit disease reports?
Once a disease on Virginia's Reportable Disease list is suspected or confirmed, physicians generally have three days to submit a report. However, for diseases listed in UPPERCASE and/or **RED** on Virginia's Reportable Disease list or if an outbreak is suspected, a report must be generated *immediately* due to the potential communicability of the disease.

Who is required to complete and submit a report?
The physician who treats or examines a person who has a **suspected or confirmed** reportable disease or condition is required to submit a timely report. However, the physician may designate someone else to report on his or her behalf but will be responsible for ensuring that the report is made.

What is needed in order to complete and submit a disease report?
For the convenience of healthcare providers, the Virginia Department of Health has a consolidated morbidity report form, also referred to as an Epi-1 form, which contains information needed for a disease report. The Epi-1 form is available at http://www.vdh.virginia.gov/epidemiology/documents/pdf/epi1.pdf

What information should I include in the report?
The information expected in a disease report includes a completed Epi-1 form along with any additional relevant and/or supportive lab results. In lieu of an Epi-1, alternate report formats/methods must include patient demographics, clinical information, and provider contact details.

How does one submit a disease report?
Disease reports can be submitted via fax, mail, or telephone. In cases where immediate notification is required, telephone is the preferred method of communication. During normal business hours please call **703-792-6300** or **703-792-7300**. For urgent after-hours reporting please call **1-866-531-3068**.

References

[1] CDC: About Foodborne Illness
http://www.cdc.gov/foodsafety/facts.html

[2] Healthy People 2020 Topics and Objectives: Food Safety
http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=14

[3] CDC: FoodNet's Progress Reports
http://www.cdc.gov/foodnet/data/trends/trends-2013-progress.html

[4] CDC: Tuberculosis Data and Statistics
http://www.cdc.gov/tb/statistics/default.htm

[5] Healthy People 2020 Topics and Objectives: Immunization and Infectious Diseases
http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23

[6] CDC: TB Incidence in the United States, 1953-2012
http://www.cdc.gov/tb/statistics/tbcases.htm

[7] Roush, SW; Murphy, TV; Vaccine Preventable Disease Working Group. Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States. *JAMA.* 2007; 298(18):2155-2163.
http://jama.jamanetwork.com/article.aspx?articleid=209448

[8] VDH Fact Sheet: Outbreak Reporting Requirement for Facilities and Programs
http://www.vdh.virginia.gov/Epidemiology/documents/pdf/Fact_Sheet_Outbreak_Reporting_Requirement_07012008_2.pdf

[9] VDH: Virginia Reportable Disease List
http://www.vdh.virginia.gov/Epidemiology/documents/pdf/Reportable_Disease_List.pdf

Resources

RESOURCE	WEB ADDRESS
PWHD Website:	http://www.vdh.virginia.gov/LHD/PrinceWilliam/
VDH Website:	http://www.vdh.virginia.gov/
VDH Disease Reporting Form/ Confidential Morbidity Report Form/Epi-1:	http://www.vdh.virginia.gov/Epidemiology/documents/pdf/Epi1.pdf
Commonwealth of Virginia/ State Board of Health Disease Reporting Regulations:	http://www.vdh.virginia.gov/Epidemiology/Regulations.htm
VDH Healthcare Associated Infections Toolkit:	http://www.vdh.virginia.gov/Epidemiology/Surveillance/HAI/index.htm
CDC/Advisory Committee on Immunization Practices (ACIP) Immunization Schedules:	http://www.cdc.gov/vaccines/schedules/index.html
CDC Travelers Health:	http://wwwnc.cdc.gov/travel/
CDC TB: VDH TB:	http://www.cdc.gov/tb/ http://www.vdh.virginia.gov/TB/index.htm
CDC STI: VDH STI:	http://www.cdc.gov/std/default.htm http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/STI/index.htm
CDC HIV/AIDS: VDH HIV/AIDS:	http://www.cdc.gov/hiv/ http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/HIV-AIDS/index.htm
CDC case definitions:	http://wwwn.cdc.gov/nndss/script/casedefDefault.aspx

Return to Table of Contents

Prince William Health District

9301 Lee Avenue
Manassas, Virginia
www.vdh.virginia.gov/LHD/PrinceWilliam
703-792-6300

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