Public Health
Seattle & King County

# Communicable Disease in King County – 2012

## Introduction

This report summarizes communicable disease surveillance done by the Public Health – Seattle & King County Communicable Disease Epidemiology and Immunization Section. It includes information about our program, communicable disease data and highlights from the past year and a table with notifiable condition data from the past ten years. Additional information about the clinical features and epidemiology of each condition is available on our website: go to www.kingcounty.gov/health/cd (conditions are listed alphabetically). Information about the conditions below is available from their respective Public Health program websites:

- HIV/AIDS Program (www.kingcounty.gov/health/hiv)
- Tuberculosis Control Program (www.kingcounty.gov/health/tb)
- Sexually Transmitted Diseases Program (www.kingcounty.gov/health/std)

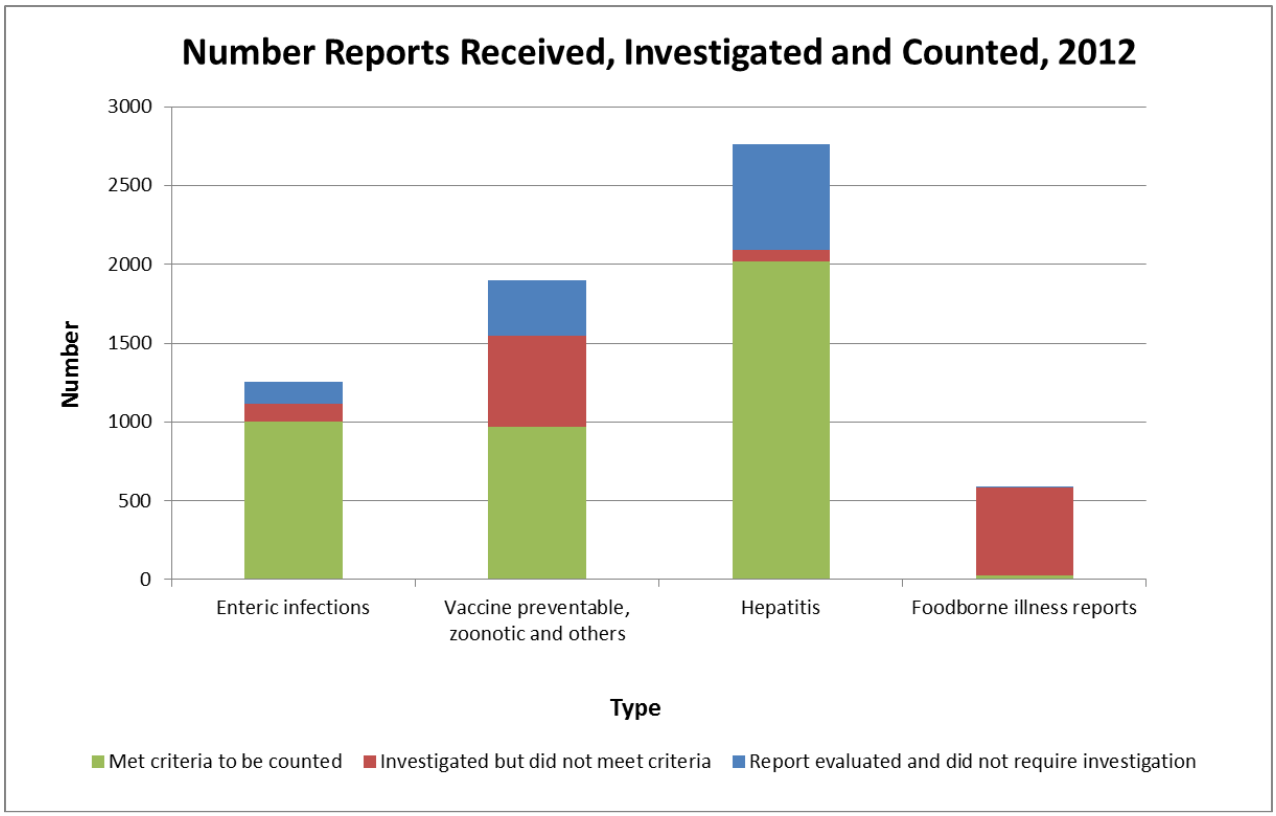
## About the Communicable Disease Epidemiology and Immunization Section

Our nurses, epidemiologists, physicians, veterinarians and administrative staff serve as "disease detectives" working to protect King County residents from infectious diseases of public health significance. We do this by:

- identifying and promoting the most effective prevention measures (such as vaccination and infection control measures)
- monitoring the occurrence of diseases in the community
- taking action to stop the spread of infections from contaminated food, beverages, environmental sources or contact with ill individuals
- helping people who have been exposed to infectious agents minimize their risk of getting sick and/or spreading infection to others
- providing information to the public, health care providers, hospitals and long term care facilities, schools, and businesses to help identify, manage and prevent infections

In addition to tracking, evaluating and responding to reports of notifiable conditions, we also investigate and respond to emerging infections such as novel influenza (including pandemic viruses and avian flu), severe acute respiratory syndrome (SARS) and other novel coronaviruses, *Cryptococcus gattii* (a rare cause of serious and potentially fatal lung infections), and drug resistant organisms including carbapenem-resistant Enterobacteriaceae.

The cases of notifiable conditions in King County residents summarized in this report represent only a part of the number of reports received and evaluated by our program: approximately 1/3 of the reports we receive are not ultimately confirmed, typically because lab testing either did not support the diagnosis, established another diagnosis, or was not available; or the clinical illness did not meet the surveillance case definition. We promptly investigate *suspected* cases of many conditions (e.g. measles, hepatitis A, meningococcal meningitis and others) and establish the cause of illness so that rapid action can be taken to prevent additional cases in those situations where the disease is confirmed.




## The year in brief

Washington State requires reporting of selected notifiable conditions and the last updates to these rules were in 2011. These rules define the conditions that are reportable to public health by health care providers, health care facilities and clinical laboratories in our state. More information on notifiable conditions and how to report cases is available online at: www.kingcounty.gov/health/cd (see resources for health care providers).

In 2012 more than 6,580 communicable disease reports were received by Public Health – Seattle & King County. Below are a few 2012 disease activity highlights (for more details, please visit our website at www.kingcounty.gov/health/cd).

- **Enteric diseases and foodborne illnesses:**
  - Reportable enteric diseases: *Campylobacter*, *Giardia*, and *Salmonella* continue to comprise the majority of reportable enteric infections, accounting for over 80% of the 1,000 reportable enteric disease cases in King County residents received in 2012. The numbers of confirmed *Campylobacter* reports (388) and *Giardia* reports (174) were higher than in recent years, due in part to recent revisions in the notifiable conditions rules that require clinical laboratories to report these organisms; previously they were notifiable only by health care providers.
  - Three national *Salmonella* outbreaks affected King County residents: a *Salmonella* Typhimurium outbreak linked to contact with hedgehogs sickened at least 20 people including one King County resident, a *S*. Braenderup outbreak linked to mangoes affected at least 127 people and 5 King County residents, and an ongoing outbreak of *S.* Heidelberg linked to chicken affected 15 King County cases and at least 113 others in 2012.

- Shellfish associated illnesses: A cluster of paralytic shellfish poisoning (PSP) occurred in a group of King County residents who consumed mussels off a dock in Jefferson County. Seven family members developed symptoms of PSP; one required hospitalization and mechanical ventilation. High levels of the neurotoxin saxitoxin were found in mussels collected around the same time as those collected by the family. All of the ill persons recovered. Non-cholera *Vibrio* infections also continue to be a health risk for people consuming seafood – 21 of the 27 cases reported were infected after eating shellfish or other seafood, 18 after eating raw oysters.
- Botulism: Two cases were identified, one infant botulism and one foodborne case.
- Shiga-toxin producing *E. coli*: Two cases with matching pulsed field gel electrophoresis (PFGE) patterns ("molecular fingerprints") were identified in King county adolescents who attended the same camp (at different times) in another state. Potential exposures included food sources and contact with animals and animal manure.

- **Chronic hepatitis infections:**
  - Chronic hepatitis B and C continue to comprise the largest number of reports, with just under 2,000 newly diagnosed chronic hepatitis B (673 cases) and C (1,317 cases) infections reported in 2012. Persons with chronic hepatitis B or chronic hepatitis C are at increased risk for serious liver disease including cirrhosis and liver cancer. More than a third of the females reported with chronic hepatitis B were tested during a pregnancy (111 out of 326), and were subsequently enrolled in Public Health's Perinatal Hepatitis B Prevention Program to protect their infants from hepatitis B infection.
- **Vaccine-preventable diseases:**
  - Pertussis: A record-breaking pertussis epidemic occurred in King County and Washington state beginning in December of 2011. In 2012, 770 cases of pertussis were reported in King County, compared to 98 cases reported in 2011. Children under the age of one accounted for 6% of the cases and 76% of the hospitalizations. There was one death reported in an infant who met the suspect pertussis case definition. Waning immunity to newer pertussis vaccines was likely a key driver in the outbreak.
  - Measles: No cases of measles were reported in King County residents. However, over the course of the year Public Health staff followed up with seven King County residents exposed to measles, six during air travel and one in another state, to make sure they were immune to measles and/or to minimize the risk they would expose other persons if they developed measles symptoms.
- **Travel-associated diseases**:
  - 163 King County residents were determined to have been infected with notifiable conditions during international travel. Illnesses included cases of campylobacteriosis, cryptosporidiosis, dengue fever, giardiasis, hepatitis A, hepatitis E, malaria, salmonellosis, Shiga toxin-producing *E. coli* (STEC), shigellosis, typhoid fever, vibriosis, yersiniosis, African tick-bite fever, and animal bites or scratches that needed rabies post-exposure prophylaxis (preventive treatment).
- **Laboratory exposures:**
  - Possible occupational exposures were reported to the following pathogens: 3 laboratory workers were exposed to *Brucella canis* (a cause of brucellosis); 2 laboratory workers were exposed to media potentially contaminated with *Coccidioides posadasii*, which causes Coccidiomycosis or "Valley Fever"; several hospital employees were potentially exposed to *Coxiella burnetii*, during a surgical procedure for a patient possibly suffering from Q fever; 3 laboratory workers were potentially exposed to *Francisella tularensis*, the cause of tularemia, while handling a patient specimen. No secondary cases were identified from these exposures.

- **Other:**
  - Two unrelated clusters of tattoo-associated non-tuberculous mycobacterial (NTM) skin infections were investigated in persons with chronic wounds after receiving a tattoo. Both clusters were linked to cases in other states. In one cluster, *M. abscessus* infections (3 confirmed, 24 possible) occurred in persons tattooed with black ink from the same company. In the second cluster, cases of *M. chelonae* infections (2 confirmed, 2 possible) occurred in persons tattooed with black ink from a different company. In addition to the Washington cases, clusters of tattoo-associated NTM skin infections were investigated in three other states. The use of ink contaminated before distribution or just before tattooing likely led to infections in each of the reported clusters. A full summary is available online at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6133a3.htm

## Notifiable Communicable Disease Reports – King County 2003-2012

| Disease | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Animal Bites and potential Rabies exposures** | 31 | 88 | 73 | 102 | 127 | 142 | 124 | 91 | 68 | 68 |
| **Arboviral disease** | 1 | 2 | 0 | 2 | 3 | 3 | 3 | 3 | 2 | 3 |
| **Botulism, Infant** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| **Botulism, Foodborne** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **Botulism, Wound** | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| **Brucellosis** | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| **Campylobacteriosis** | 262 | 264 | 336 | 258 | 262 | 296 | 274 | 302 | 385 | 388 |
| **Cholera** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cryptosporidiosis** | 38 | 35 | 69 | 45 | 46 | 35 | 31 | 16 | 6 | 18 |
| **Cyclosporiasis** | 1 | 9 | 5 | 1 | 1 | 0 | 0 | 1 | 2 | 0 |
| **Diphtheria** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Giardiasis** | 124 | 125 | 144 | 117 | 151 | 114 | 100 | 130 | 161 | 174 |
| ***Haemophilus influenzae* invasive disease (under age 5 years)** | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 4 | 1 | 0 |
| **Hantavirus Pulmonary Syndrome** | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| **Hepatitis A** | 30 | 14 | 17 | 17 | 17 | 16 | 15 | 7 | 16 | 10 |
| **Hepatitis B, Acute** | 34 | 23 | 23 | 21 | 23 | 30 | 12 | 16 | 15 | 11 |
| **Hepatitis B, Chronic** | 522 | 629 | 708 | 838 | 836 | 880 | 661 | 664 | 570 | 673 |
| **Hepatitis C, Acute** | 8 | 10 | 10 | 6 | 7 | 11 | 6 | 7 | 8 | 4 |
| **Hepatitis C, Chronic** | 1098 | 1633 | 1713 | 1774 | 1745 | 1844 | 1560 | 1523 | 1434 | 1317 |
| **Hepatitis E** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **Legionellosis** | 2 | 7 | 8 | 5 | 7 | 7 | 9 | 8 | 10 | 7 |
| **Leptospirosis** | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Listeriosis** | 6 | 5 | 3 | 7 | 10 | 15 | 5 | 8 | 9 | 10 |
| **Lyme disease** | 2 | 10 | 6 | 2 | 5 | 2 | 8 | 4 | 7 | 6 |
| **Malaria** | 16 | 12 | 12 | 25 | 15 | 14 | 17 | 21 | 11 | 13 |
| **Measles** | 0 | 6 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| **Meningococcal disease** | 6 | 18 | 15 | 10 | 4 | 5 | 5 | 7 | 8 | 4 |
| **Mumps** | 0 | 1 | 1 | 2 | 8 | 1 | 1 | 1 | 1 | 1 |

| Disease | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Paralytic Shellfish Poisoning** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| **Pertussis** | 281 | 201 | 316 | 105 | 119 | 78 | 37 | 59 | 98 | 770 |
| **Psittacosis** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Q Fever** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| **Relapsing Fever** | 2 | 1 | 0 | 0 | 2 | 1 | 2 | 3 | 2 | 0 |
| **Rubella** | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| **Salmonellosis** | 243 | 234 | 218 | 205 | 241 | 262 | 251 | 228 | 190 | 216 |
| **Shiga-toxin producing *E. coli* (inlcuding O157:H7)** | 43 | 42 | 45 | 42 | 43 | 49 | 66 | 41 | 51 | 70 |
| **Shigellosis** | 88 | 63 | 72 | 52 | 50 | 41 | 61 | 44 | 43 | 67 |
| **Tetanus** | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Trichinosis** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Tularemia** | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| **Typhoid Fever** | 2 | 4 | 8 | 3 | 4 | 8 | 4 | 15 | 10 | 6 |
| **Vibriosis** | 8 | 8 | 8 | 39 | 11 | 11 | 20 | 20 | 21 | 27 |
| **Yersiniosis** | 11 | 15 | 9 | 10 | 5 | 5 | 10 | 7 | 5 | 22 |