

# Epi-Log & VacScene

The Communicable Disease Prevention Quarterly

## Epi-Log: Test & Cure Project Provides New Options for Persons with Hepatitis C

In August 2014, Public Health-Seattle & King County received a four year, \$6 million grant from Health and Human Services/Centers for Disease Control and Prevention to improve testing, treatment and cure of persons with chronic hepatitis C virus (HCV) infection. New, highly effective therapies, simplified HCV screening guidelines, use of electronic medical record systems, and increasing numbers of insured persons provide new opportunities for persons with chronic HCV infection to be identified and successfully treated. Only three sites in the country were awarded funds for this project: King County, Chicago, and Maryland. The grant runs through September 2018.

The Hepatitis C Test & Cure project is a collaboration of public health, academia, and community-based primary care organizations to ensure the successful identification, monitoring, clinical evaluation, treatment, and cure of persons with chronic HCV infections. This project also seeks to build a coordinated and sustainable public health and community-based health care system for HCV. Project activities include increasing capacity and training healthcare providers on the diagnosis, evaluation, and

treatment of HCV; utilizing HCV case management; optimizing the use of electronic health records; strengthening public health surveillance; enhancing the integration of clinical and public health data systems; and leveraging the Affordable Care Act to increase access to care and treatment.

Partners include Public Health (Jeff Duchin, MD, PI and Elizabeth Barash, MPH, Project Director), the University of Washington's Project ECHO telehealth program (John Scott, MD, MSc), and a community coalition including Harborview Medical Center (Matt Golden, MD, lead collaborator), HealthPoint Community Health Centers, Neighborcare Health Community Health Centers, Swedish Medical Center, Group Health Cooperative, the Hepatitis Education Project, and Washington State's Department of Health and Health Care Authority.

Approximately 2.7–5.2 million Americans are believed to be chronically infected with HCV, yet it remains a neglected disease. Many people infected with HCV do not experience any symptoms until serious liver problems develop later in life, including chronic liver disease which can lead to cirrhosis and liver cancer. The total

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## Epi-Log: HCV Cont'd.

number of persons with HCV-related cirrhosis is expected to peak at 1 million in 2020, and HCV infection is a leading indication for liver transplants. Deaths related to HCV have been increasing in the United States over the past decade and were recently estimated at 17,000 to 18,000 deaths annually. Currently, more Americans die from HCV than from HIV/AIDS. Nationally, the cost of HCV-related deaths over the next 30 years could exceed \$2.5 billion.

Unlike hepatitis A and B, there is no vaccine to prevent HCV infection, and until recently, treatment options had limited effectiveness in most patients. However, newly developed antiviral drugs are revolutionizing HCV treatment with shorter, better tolerated treatment regimens and greatly improved outcomes. Despite these promising new treatments, as few as 50% of those infected with HCV have been diagnosed and are aware of their infection. About one-third of patients diagnosed with HCV are referred to care, and only a fraction are prescribed treatment. More information on who should be tested for HCV and a testing algorithm is on this page.

King County is home to 28% of the 69,459 reported cases of chronic HCV in Washington State from 2000–2011. Baby boomers, born between 1945 and 1965, are at increased risk for HCV infection. There are approximately 534,880 baby boomers in King County, representing approximately 28% of the population; an estimat-

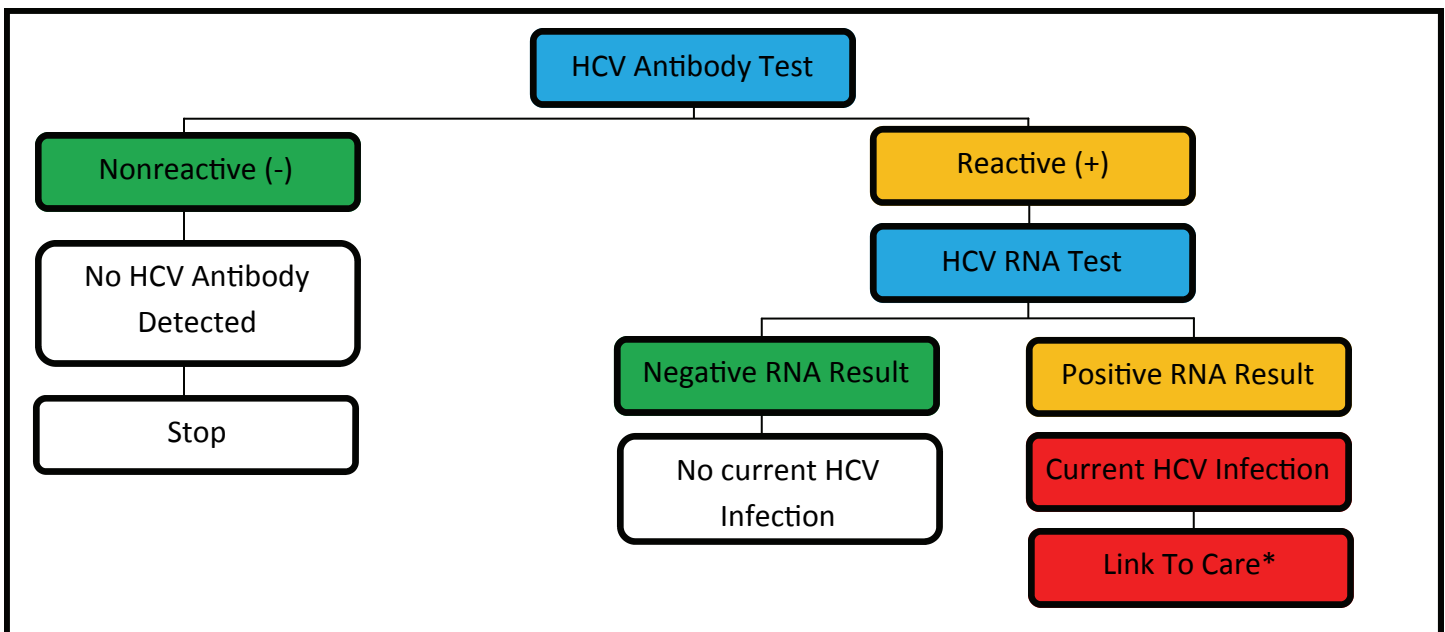
ed 17,600 of whom have been infected with HCV, with over 9,600 chronically infected. Other populations at increased risk for HCV infection include many foreign born persons and persons who have injected drugs.

During 2009–2013, there were 5,788 confirmed cases of chronic hepatitis C reported among King County residents. Among confirmed chronic HCV cases with data available, 63% were baby boomers, 63% were males, 10% were homeless, and 68% were non-Hispanic white. Among chronic HCV cases where a suspected exposure was identified, 94% were persons who injected drugs.

To learn more about this project, please contact Elizabeth Barash at [Elizabeth.barash@kingcounty.gov](mailto:Elizabeth.barash@kingcounty.gov).

### Who Should Be Tested for HCV?

- Anyone born from 1945-1965
- Current or former injection drug users
- Recipients of clotting factor concentrates before 1987
- Recipients of blood transfusions or organ transplants before 1992
- Recipients of blood or organs from HCV-positive donor
- Children born to HCV-positive mothers
- Persons with HIV infection
- Chronic hemodialysis patients
- Healthcare workers after needlesticks involving HCV-positive blood



**Testing Algorithm for Hepatitis C.** \*Link to care: visit with a medical provider who can manage the individual's HCV infection including further evaluation for liver disease and potential HCV treatment.

## Epi-Log: Measles Update

From January 1 to February 20, 2015, 154 cases of measles from 17 states were reported in the US. Most of the cases are part of a large, ongoing multi-state outbreak linked to an amusement park in California. There have been six confirmed measles cases in Washington State this year, none from King County. Public Health did confirm a measles infection in an international traveler who was in King County during the contagious period.

Health care providers should ensure that all patients are up-to-date on measles, mumps, rubella (MMR) vaccine. There have been no changes to the recommended vaccination schedule.

- Children should be vaccinated with two doses of the MMR vaccine. The first dose should be given at 12-15 months of age, and the second dose at 4-6 years of age.
- Infants traveling outside the US can be vaccinated as early as six months of age but they must still receive the full two dose series beginning at 12 months of age; more information is available at [the Centers for Disease Control and Prevention \(CDC\) website](http://www.cdc.gov).
- Adults should have at least one dose of MMR vaccine, and two doses are recommended for international travelers, healthcare workers, and students in college, trade school, and other schools after high school.

Measles should be considered in patients with compatible symptoms, including:

- Prodrome of fever, cough, coryza, and conjunctivitis for 2-4 days
- Generalized maculopapular rash that usually begins on the face
- Koplik spots may appear on buccal mucosa 1-2 days prior to rash

Be sure to ask patients about recent international and domestic travel. An updated list of potential exposure locations in King County can be found here:

[www.kingcounty.gov/healthservices/health/communicable/diseases/Measles/exposure.aspx](http://www.kingcounty.gov/healthservices/health/communicable/diseases/Measles/exposure.aspx)

If you see a patient who you suspect may have measles:

- Promptly isolate. Patients should wear a mask covering their nose and mouth and should be kept away from other patients.
- Only staff with documented immunity to measles should be allowed to enter the patient's room. After the patient is discharged, do not use the room for 2 hours.
- Call Public Health immediately at (206) 296.4774 for information on specimen collection and testing. **The Washington State Public Health Laboratories will not accept specimens for testing without prior approval from Public Health.**

### Measles Resources:

- General Measles Information: <http://www.kingcounty.gov/healthservices/health/communicable/diseases/Measles.aspx>
- School Vaccine Coverage and Exemption Data: <http://www.kingcounty.gov/healthservices/health/communicable/immunization/children/school-immunizations.aspx>
- Measles-Related Advisories: <http://www.kingcounty.gov/healthservices/health/communicable/providers.aspx>
- Measles FAQ for Childcares and Schools: <http://www.kingcounty.gov/healthservices/health/communicable/diseases/Measles/schools.aspx>

### Subscribe to Public Health's INFO-X Health Alerts and Advisories

Public Health communicates information of public health relevance (including outbreak-related information and guidance) to clinicians using Health Alerts and Advisories distributed through our "INFO-X" email listservs. We encourage all King County healthcare providers who do not currently receive our "INFO-X" messages to subscribe by sending a request to [maybelle.tamura@kingcounty.gov](mailto:maybelle.tamura@kingcounty.gov) with your name, practice location and type of practice (specialty).

## Epi-Log: Ocular Syphilis In King County

Four cases of ocular syphilis have been diagnosed in King County residents in the four week period since mid December, 2014, and two additional cases have occurred elsewhere in the state. This relatively large number of cases – including two cases that led to blindness – should prompt medical providers to be particularly vigilant in ensuring that patients presenting with ocular complaints undergo testing for syphilis; that patients with syphilis are routinely asked about changes in their vision and, as needed, referred for ophthalmologic evaluation; and that persons at high risk for syphilis who present with ocular findings consistent with syphilitic disease receive prompt therapy effective against central nervous system (CNS) syphilis.

All four of the recent King County cases occurred in men, three of whom identified as men who have sex with men (MSM), the group most affected by syphilis in King County. Three of the cases were HIV infected, though two were not receiving HIV medical care. Two of the cases were sex partners and presumed to be epidemiologically linked. All of the patients presented primarily with visual complaints, a combination of loss of vision, floaters, a blue tinge in vision, flashing lights and blurring of vision. All four patients had positive serum rapid plasma regain (RPR) tests. At the time this alert was prepared, quantitative RPR results were available on three patients, with results ranging from 1:512 to 1:4096. Ophthalmologic examinations revealed uveitis with variable retinal involvement. Two patients underwent lumbar puncture (LP), both of whom had laboratory evidence of CNS syphilis (CSF pleocytosis and positive CSF VDRL). Three of the patients were admitted to a hospital for intravenous penicillin. One patient has so far refused treatment; public health and medical providers continue to encourage this man to accept therapy.

At present, syphilitic eye disease is typically a complication of early syphilis (i.e. primary or secondary syphilis). Although the infection can affect any part of the eye, uveitis is the most common manifestation of disease. Initial symptoms can be subtle, including floaters, flashing lights (photopsia), blurring of vision and ocular pain. If untreated, these symptoms can progress to loss of vision. Early treatment usually leads to resolution of symptoms without vision loss, while delayed treatment can result in permanent blindness.

Syphilis is common in MSM in King County, particularly among HIV infected MSM in whom approxi-

mately 3% acquire syphilis each year. While rates of syphilis are extremely high among MSM in King County, we have not observed a recent increase in syphilis rates. The cause for this cluster of cases of ocular syphilis is uncertain. Some evidence suggests that some strains of *Treponema pallidum*, the bacterium that causes syphilis, may be more likely to cause CNS disease. It is not known whether some strains of *T. pallidum* have a greater likelihood of causing ocular infections, but the current cluster of cases raises this concerning possibility.

Public Health recommends that medical providers take the following steps in response to the recent series of syphilis cases:

- Providers should have a low threshold for testing patients presenting with genital, oral or rectal ulcers; rash or visual complaints for syphilis.
- Patients presenting with genital, oral or rectal ulcers; rash or visual complaints should be asked whether they have sex with men, women or both men and women.
- Patients with possible or diagnosed syphilis should be asked routinely about changes in their vision or hearing (including hearing loss or tinnitus) in order to identify persons at high risk for complicated syphilis.
- Patients with signs or symptoms consistent with syphilis and ocular complaints should be referred for immediate ophthalmologic evaluation.
- All patients being evaluated for syphilis should be tested for HIV infection unless they have a prior HIV diagnosis.
- Medical providers should initiate penicillin therapy in all patients in whom syphilis is suspected without waiting for laboratory confirmation of the diagnosis.
- In patients with ocular findings consistent with syphilis, therapy should be consistent with current recommendations for the treatment of CNS syphilis (i.e. penicillin G IV or procaine penicillin IM in conjunction with oral probenidol). (CDC STD Treatment Guidelines are available at <http://www.cdc.gov/std/treatment/2010/default.htm>).

All patients with suspected complicated syphilis should be offered LP. A study of CSF abnormalities in persons with syphilis is ongoing at Harborview Medical Center.

- Patients can be referred for LP and possible study enrollment by calling (206) 540.1500.

- Public Health recommends that patients thought to have CNS, ocular or otologic syphilis be managed in collaboration with Public Health physicians in the HIV/STD program or infectious disease specialists.
- All patients diagnosed with ocular syphilis or suspected to have possible ocular syphilis should be immediately reported to Public Health. Public Health is investigating all cases of ocular syphilis to better understand what appears to be an increase in this manifestation of syphilis. As part of that, we are collecting CSF, vitreous and serum specimens from patients with untreated syphilis for *T. pallidum* typing. Providers can report cases of ocular syphilis and arrange to send residual serum, CSF or vitreous specimens to Public Health by calling Rolf Pederson at (206) 744.4376.

Our community continues to experience high rates of HIV and STD among MSM. With that reality in mind, Public Health recommends that medical providers use the following STD screening guidelines in MSM:

- All MSM who have had anal or oral sex in the prior year and who are not part of a long-term, mutually monogamous sexual relationship should be tested for syphilis, gonorrhea, chlamydial infection and HIV at least annually. Gonorrhea and chlamydial testing should include testing of the pharynx and rectum if those sites have been potentially exposed to infection. Medical providers should not assume that patients in long-term relationships are mutually monogamous and should ask patients about their number of sex partners and the gender of those partners.
- MSM with any of the following risk factors should be tested for STD (as above) every three months: history of bacterial STD in the prior year; methamphetamine or popper use in the last year;  $\geq 10$  sex partners in the prior year; sex with partners of unknown or different HIV status.
- Providers caring for HIV-infected MSM should order syphilis testing for all sexually active MSM patients at each medical visit if the patient is not in a long-term, mutually monogamous relationship.
- Providers should offer HIV pre-exposure prophylaxis (PrEP) to all HIV uninfected men with rectal gonorrhea or syphilis. Providers can refer men with syphilis or rectal gonorrhea who are interested in PrEP to the

PHSKC STD clinic at Harborview. Information on additional medical providers offering PrEP can be found at: <http://www.kingcounty.gov/healthservices/health/communicable/hiv/prevention/prep.aspx>

## Epi-Log: Ebola Update

Through February 8, 2015, there have been almost 23,000 reported confirmed, probable, and suspected cases of EVD in Guinea, Liberia and Sierra Leone, with almost 9,000 reported deaths. After a decrease in December and January, Ebola continues to spread in the West African countries of Guinea and Sierra Leone, with over new 200 cases reported in the first week of February (WHO data). Cases in Liberia have been low in recent weeks. The last known case of Ebola in Mali tested negative on December 6, 2014 and all contacts of Ebola cases in Mali have completed their monitoring periods; as of January 2, 2015, Mali was removed from the list of currently affected countries.

There have only been 34 reported cases of Ebola diagnosed outside of West Africa, including four cases in the United States, with the last case being discharged on November 11, 2014 after testing negative for Ebola. Public health monitoring in the US is ongoing, with all travelers from the three affected countries transiting through one of five pre-determined airports where they are screened for Ebola risk factors and symptoms. More than 70 travelers returning to King County from Ebola-affected countries, including healthcare workers, have been monitored by Public Health through the 21-day incubation period. Two persons were evaluated at King County Ebola Treatment Facilities for symptoms; neither had Ebola infection.

Two hospitals in King County have been designated as Ebola Treatment Facilities after in-house site visits by the Centers for Disease Control and Prevention, WA DOH and Public Health staff. Additional facilities are preparing to be Ebola Assessment Facilities which have a similar level of preparedness as treatment facilities, differing primarily in the duration that they are expected to care for suspected and confirmed Ebola cases.

CDC continues to recommend all healthcare facilities and healthcare providers take a travel history from patients at the first opportunity in the clinical encounter, and take appropriate steps to manage persons reporting exposure to Ebola-affected areas or other Ebola risk factors in the past 21 days. More information about healthcare system Ebola preparedness and response may be found [here](#). Additional Ebola resources can be found on the [CDC](#) and [WHO](#) web sites.

## Epi-Log: King County Flu Summary

The 2014-2015 influenza season has been more severe than recent seasons, with long-term care facilities particularly affected. Similar to what has been observed nationally, peak activity in King County occurred at the end of December, and began to decline in mid-January, though is still above baseline levels. Emergency department visits due to influenza-like illness (ILI) exceeded peak levels observed during the last five seasons, excluding the pandemic period (see figure). Twenty-eight laboratory-confirmed deaths have been reported, exceeding counts over the past five years, though this may in part be due to improved reporting. Seventy-nine per-

cent of deaths were among persons aged 65 and older; one death occurred in a 30-year-old with significant underlying chronic health conditions. One pediatric death has been reported in Washington this flu season, in a previously healthy five-year-old from Pierce County. These numbers are likely an underestimate of actual flu severity, as many influenza deaths are likely to go undetected or unreported. Based on CDC national mortality estimates, influenza causes closer to 200 deaths in King County in an average season.

For more information on influenza, please visit the [PHSKC](#) and [CDC](#) websites.

## VacScene: Low Influenza Vaccine Effectiveness Against Flu Type A (H3N2)

In mid-January, the [CDC reported](#) an overall mid-season vaccine effectiveness (VE) of 23% for the 2014-15 influenza vaccine and suggested this low rate was likely due to antigenic drift of predominating influenza A (H3N2) viruses from the vaccine virus. Evidence of antigenic drift began to occur in significant numbers in July 2014, after 2014-15 flu vaccine production was already in full swing. The 23% overall VE is driven by a VE of 24% in the 6 month – 17 year age group – there was no significant protection observed in persons 18 years or older.

To counter the impact of vaccine mismatch, the CDC has urged healthcare providers to rapidly identify and prescribe antiviral treatment for patients with suspected or confirmed influenza who are hospitalized, who have severe and/or progressive disease, or who are at risk for complications, such as young children, pregnant women, persons with chronic medical conditions like asthma, diabetes, or heart disease, and adults  $\geq 65$  years. [A recent meta-analysis in The Lancet](#) examined the impact of antiviral medication oseltamivir versus placebo for treatment of influenza in adults and found that oseltamivir reduced the time for symptoms to completely resolve by 21% and resulted in fewer lower respiratory tract infections and reduced hospital admissions compared to placebo.

The CDC continues to recommend influenza vaccination for all persons  $\geq 6$  months of age during this flu season, because the vaccine will likely still prevent some infections with influenza A (H3N2) along with other circulating strains, and may reduce the severity of some of those infections. Final VE calculations for 2014-15 are expected to be published in the MMWR this summer.

For more information: [2014-15 Flu Season](#) (CDC)

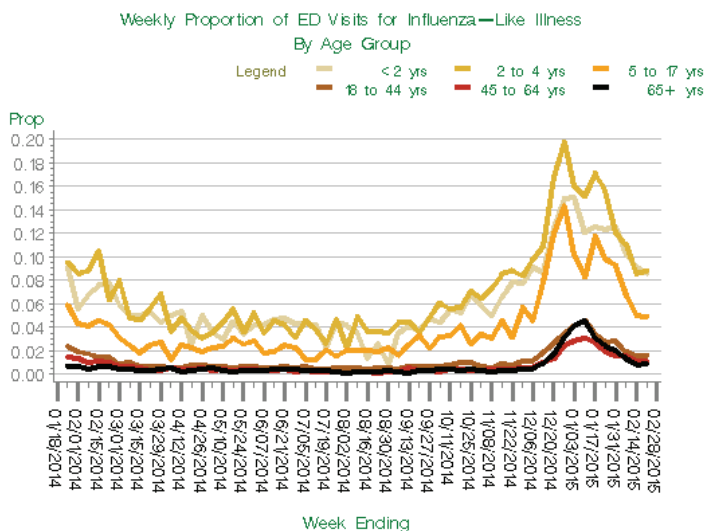


Figure. King County Emergency Department Visits for ILI.

Fifty-nine outbreaks of ILI have been reported by long-term care facilities, 58 of which were laboratory-confirmed. This is greater than in any previous flu year, and over double the average of 22 outbreaks reported in the previous five flu years. Of those for which an influenza virus has been characterized, 41 were influenza A and four were influenza B.

## VacScene: Medicare Coverage for Pneumococcal Vaccines

The Center for Medicare & Medicaid Services (CMS) updated Medicare coverage requirements to align with ACIP's revised pneumococcal vaccination recommendations for adults. The [coverage update](#) is effective for service dates on or after September 19, 2014 and states that Medicare will cover:

- An initial pneumococcal vaccine to all Medicare beneficiaries who have never received the vaccine under Medicare Part B; and
- A different, second pneumococcal vaccine one year after the first vaccine was administered (that is, eleven full months have passed following the month in which the last pneumococcal vaccine was administered).

### Pneumococcal Vaccine Resources:

[ACIP recommendations for use of PPSV23 and PCV13 in adults > 65 years](#) (CDC)

[Pneumococcal vaccination timing for adults](#) (California Department of Health)

## VacScene: Immunizations Q&A

**Q:** How many doses of Tdap/Td should an unvaccinated or undervaccinated child aged 7-10 years receive to complete their series?

**A:** The number of Tdap/Td doses needed depends on how many prior doses in the series the child received **and** whether dose # 1 was given at < 12 months of age.

- **If dose # 1 was given at < 12 months, four total doses in the series are needed.** Give one dose of Tdap, followed by Td as needed. Maintain four-week intervals between doses 1 and 2 and 2 and 3, and a six month interval between doses 3 and 4.

**Example:** a 7-year-old whose immunization record shows DTaP # 1 at age eight months and no further doses should receive a dose of Tdap now, followed by a dose of Td four weeks later, and another Td six months after the first Td.

- **If dose # 1 was given at  $\geq$  12 months, three total doses in the series are needed.** Give one dose of Tdap, followed by Td as needed. Maintain a four-week interval between doses 1 and 2, and a six-month interval between doses 2 and 3.

**Example:** a 10-year-old whose only prior immunization includes DTaP # 1 at age two years should receive a dose of Tdap now, followed by a Td six months later.

- Children aged 7-10 years who receive Tdap as part of the catch-up schedule are not recommended to receive the adolescent Tdap dose at age 11-12 years. Instead, give Td 10 years after the last Tdap/Td in the catch-up series.
- If DTaP is inadvertently given to a child 7-10 years, the dose is considered valid. For those children, the DTaP dose may count as their adolescent Tdap, or a dose of Tdap may be given at age 11-12 years.

**Q:** Our 12-year-old patient received doses of meningococcal vaccine during infancy in China. Does he need to be revaccinated with MCV4?

**A:** Any dose of meningococcal vaccine given prior to the 10<sup>th</sup> birthday does not count as part of the routine adolescent vaccination series. The patient should receive a dose of MCV4 now and a booster at age 16 years.

**Q:** We were working on our VFC inventory report and realized a patient received a dose of expired vaccine. What should we do?

**A:** Any time expired vaccine is administered, the dose is invalid and should be repeated.

- Notify the patient/family of the error and need for re-vaccination.
- **For inactivated vaccine**, administer a valid dose either on the same clinic day as the invalid dose, or as soon as the patient can return to the clinic.
- **For live-virus vaccine**, administer a valid dose either on the same clinic day as the invalid dose, or  $\geq$  28 days after the invalid dose.
- Report the error to the Institute for Safe Medication Practices' [Vaccine Errors Reporting Program](#) and within your own clinic per internal policy.

To prevent the error from recurring:

- Check vaccine expiration dates weekly and remove any expired vaccine from the storage unit immediately, placing in a bag labeled, "Do not use."
- Always check the vaccine expiration date prior to administration.

# Epi-Log & VacScene

## Public Health Seattle & King County

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### Public Health Resources:

**Communicable Disease Epidemiology & Immunization Section:** [kingcounty.gov/health/cd](http://kingcounty.gov/health/cd)

Our monthly **reportable cases table** has moved online. Visit: [kingcounty.gov/communicable](http://kingcounty.gov/communicable)

Program-related questions..... (206) 296.4774

### Communicable Disease Reporting:

AIDS/HIV ..... (206) 263.2000  
STDs ..... (206) 744.3954  
TB ..... (206) 744.4579

### **All Other Notifiable**

**Communicable Diseases ..... (206) 296.4774**

Automated reporting for conditions  
not immediately notifiable (24/7) .. (206) 296.4782

Communicable Disease Hotline..... (206) 296.4949

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