

## Rabid Bats in King County

In the span of twelve days this past August, three rabid bats were discovered in King County neighborhoods – the same number confirmed throughout the county during [all of 2016](#). Across Washington State in August, the number of bats with possible human exposure that tested positive for rabies hit a 10-year high.

Both bat and human outdoor activity increases during the summer. Bats emerge from hibernation at the end of spring, and most species give birth during late May to early July, creating a seasonal swell in the population. The young fly within four weeks, and juvenile bats may be more prone to injury and human encounters as they get their bearings. But this summer stood out because the proportion of bats with possible human exposure that tested positive for rabies was unusually high. Since the start of 2017, eight bats with possible human exposure in King County have tested positive, outpacing annual totals for the past 5 years, which ranged from zero to three. The proportion of positive tests to-date this year is 19.5% compared to 0–8.3% over the past five years.

Epidemiologists, ecologists and concerned citizens alike all have the same question: what's behind this uptick? Do this year's trends reflect a true increase in the number of rabid bats? If so, does that indicate a growing bat population? Alternatively, are shifts in land use or climate change bringing human and bat populations into closer proximity? One theory, for example, posits that warmer temperatures and heat waves encourage people to open windows, introducing more opportunities for bats to enter buildings.

Are people more alert to the signs of ailing bats and

likely to report suspected rabies cases? [Press releases from Public Health](#) and coverage by local media about rabid bats may have triggered a positive feedback loop; community members who previously would have walked past a sick bat may have been more likely to notice and report it. Bats have also made headlines in recent years with the emergence of White Nose Syndrome – a devastating fungal infection that has plagued hibernating bats in 31 states and five Canadian provinces.<sup>1</sup> In March 2016, Washing-



ton's first case of [white-nose syndrome](#) was confirmed in a Little Brown Bat (*Myotis lucifugus*) near North Bend<sup>2</sup>, leading to the development of [public awareness campaigns](#) that raised the visibility of bats. Or could it be that a multitude of factors combined to drive up the number of positive tests?

Like bats themselves, the answer is complex. More than 15 species of bats live in Washington, with varying

<sup>1</sup>[https://www.nwhc.usgs.gov/disease\\_information/white-nose\\_syndrome/](https://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/)

<sup>2</sup><http://wdfw.wa.gov/conservation/health/wns/>

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## Rabid Bats, cont'd.

roosting, feeding, breeding and hibernation patterns. Very little is known about how rabies virus is maintained in the wild bat population or the potential role of the different bat species found in our region. In addition, there are no active surveillance systems in Washington State to monitor rabies in bats, making it challenging to estimate rabies prevalence rates in the wild bat population from year to year. Public Health and our partners at Washington State [Fish and Wildlife](#) and the [Washington State Department of Public Health](#) will continue to analyze any local data and look for patterns, bearing in mind that although the proportion of positive tests has spiked this year, the absolute number of confirmed rabid bats is still small. Furthermore, the number of bats that test positive for rabies usually changes from year to year, making it difficult to draw conclusions or make predictions based on a single year of data.

### Guidance for Healthcare Providers

Bats are the only known reservoir for rabies in Washington State, however transmission from bats to other animals has occurred rarely. All health care providers, health care facilities, and veterinarians are required to immediately report human exposures to suspected rabid animals to the local health jurisdiction where the victim lives. These include bat bites, scratches, bare skin contact, and waking up to a bat in one's bedroom. For King County residents, Public Health evaluates the circumstances of the exposure and, when possible, facilitates testing of any animals suspected to be rabid.

For high-risk exposures the bat should be tested to avoid unnecessary administration of rabies post-exposure prophylaxis (PEP). PEP may be delayed for 24 to 48 hours while testing is pending unless a bite or scratch is to the head or neck, in which case PEP should begin immediately. All patients determined to have had a true exposure to a bat that tests positive or indeterminate (unknown) for rabies, or is not available for testing, should receive PEP.

When assessing the risk of rabies exposure in persons bitten by a non-bat species, consider: 1) The animal's health, species, behavior, and vaccination history. Was the bite unprovoked or was it provoked by the person entering the animal's territory, interfering with the animal's young or food, or acting in a way that the animal would interpret to be aggressive? Was the animal showing signs of rabies,

such as unprovoked aggression, excess salivation, unusual vocalizations, and limb paralysis? 2) The geographic location or origin of the animal. Did the bite occur in an animal imported from or with travel to an area endemic with rabies in the past 6 months, such as Africa, Asia, and parts of Latin America? 3) The likelihood the animal was exposed to another rabid animal, such as a bat. Consult these [guidelines for human rabies prevention](#).

### In King County:

- Report suspected human rabies exposures immediately to Public Health's Communicable Disease Epidemiology Section at 206-296-4774. Consultation is also available at this number 24 hours a day, 7 days a week.
- Report animal exposure only (no human exposure) within one day to Public Health, Environmental Health at 206-263-9566.
- For further resources, visit the King County page, "[Animal bites and suspected human rabies exposures.](#)"

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## Preventing a Measles Outbreak: Outreach to and by King County’s Somali Community

When we first heard about the measles outbreak among the Somali community in Minnesota, it set off alarms about the possibility of a similar outbreak here in King County. For years, our local Somali community partners have told us about the strong social ties between the Somali communities in Minnesota and King County, maintained through frequent online and phone contact. So when the Minnesotans raised concerns about increased diagnoses of autism among their children, the message traveled quickly. King County Somalis also heard the spurious claims made by members of the anti-vaccination movement about the supposed link between MMR vaccine and autism.

This misinformation stemmed from Andrew Wakefield (the originator of the now debunked study that [falsely linked](#) MMR and autism) and his associates, who had travelled to Minneapolis on at least three occasions to meet with the Somali community. In recent years, the rate of MMR vaccination among Somali American children in Minnesota has plummeted, from 92% in 2004 to 42% by 2014. In March of this year, a [measles outbreak](#) emerged in MN, resulting in 79 cases with 22 hospitalizations. Most cases involved unvaccinated preschool children in the Somali American community. Although Mr. Wakefield’s medical license has been revoked because of his fraudulent claims, he unfortunately continues to travel around the country targeting communities with high rates of autism and [spreading debunked misinformation](#) about vaccination.

### The link to King County

King County is home to around 30,000 Somali Americans. The MMR vaccination rate in the local Somali community has dropped to 65% in recent years (compared to 83% for King County overall), putting this community at greater risk for an outbreak. Fortunately, Public Health Seattle King County (PHSKC) has a strong relationship with the [Somali Health Board](#) (SHB), a robust organization of local Somali health professionals. The SHB had already been tracking the Minnesota outbreak and had

made connections to Somali health professionals there. There was an urgent need for outreach about measles and MMR vaccine to this community, and the SHB was ready for action. Working with the Washington State Department of Health, PHSKC was able to support the SHB with funding to extend their reach.

“People in the Somali community don’t fear vaccines—they fear autism,” said Ahmed Ali, Executive Director of the Somali Health Board. “We knew from our own experience and talking to our colleagues in Minnesota that we had to acknowledge that fear, and to share what we know about autism as well as measles and MMR vaccine, and then allow them to make their own decisions. And as much as possible, we needed to talk to people in



Ahmed Ali, Executive Director of the Somali Health Board.

person.”

With that in mind, the SHB shared information widely through: presentations at events for Somali parents; community forums broadcast through Facebook Live; translated flyers distributed at restaurants, retail hubs, and clinics; and appearances on call-in shows on Somali cable access. They also met with faith leaders in the community and enlisted help from local imams to share information about measles and MMR vaccine at services. “Our local religious leaders played a significant role in our efforts to educate the community,” said Ali.

Health officials have declared an end to the 2017 Minnesota measles outbreak, and King County successfully avoided a local outbreak. Although the imminent threat is

## Somali Community Outreach, cont'd.

diminished, the SHB will continue to bring its expertise to help return MMR vaccination rates among King County's Somali community to the pre-Andrew Wakefield era.

## First Reported Case of Raccoon Roundworm (Baylisascariasis) Infection in Washington State

Raccoon roundworm, or baylisascariasis, is a zoonotic infection of humans and animals caused by the intestinal roundworm *Baylisascaris procyonis* (*B. procyonis*). Raccoons (*Procyon lotor*) are the definite host of *B. procyonis*.

In May 2017, a 19-month-old child living in West Seattle was diagnosed with an infection of *B. procyonis*, the first reported case in Washington State. The previously healthy patient presented with ataxia, tremors in the extremities, and decreased interactivity. There was a history of the patient eating soil on the patient's property. Serum and CSF from the patient were positive for *B. procyonis* antibodies. Public Health helped determine the presence of a raccoon latrine, or communal defecation site, in the patient's backyard in and around a tree where the patient was observed putting dirt in the mouth. Fecal samples at the latrine site were collected and tested for *B. procyonis* by fecal floatation, with results showing parasite ova consistent with *B. procyonis*. The toddler is improving with treatment of albendazole and steroids.

*B. procyonis* is a rare infection with only 29 reported clinical cases of baylisascariasis in the United States. However, the potential for severe clinical disease upon infection and the need for immediate treatment mean that clinicians should consider *B. procyonis* infection on their list of differential diagnosis in certain patients. Please review the resources below for more information about baylisascaris, including risk factors, diagnosis, and treat-

ment. Public Health can facilitate testing at CDC and epidemiologists are available 24/7 for consultation on *B. procyonis* testing at 206-296-4774.

### Resources:

CDC: [Baylisascaris Information](#) including Epidemiology and Risk Factors, Prevention and Control, and Resources for Health Professionals (treatment and testing)

Public Health – Seattle & King County: [Diseases from raccoons and other wildlife](#)

Public Health – Seattle & King County: [Raccoon Roundworm factsheet for patients/public](#)

### King County Influenza Update

- As of mid-November, influenza activity was observed to be below baseline levels.
- There have been no reports of laboratory-confirmed influenza deaths or outbreaks in long-term care facilities.
- Emergency Department visits for all age groups are at or below baseline levels.
- The University of Washington Virology Laboratory data show low levels of parainfluenza, as well as circulating rhinovirus.

For weekly King County influenza updates, visit the [Public Health – Seattle & King County Influenza page](#).

For more information about this year's flu vaccines, consult the CDC webpage, [Prevention and Control of Seasonal Influenza with Vaccines, 2017-18](#).

## Recommendations from the Advisory Committee on Immunization Practices (ACIP)

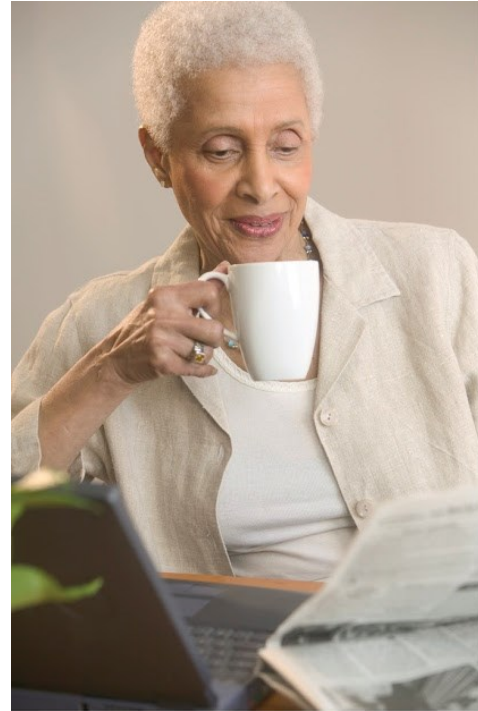
### *New Shingles Vaccine Preferentially Recommended for Adults 50 and Over*

At its [October 25-26 meeting](#), ACIP voted to recommend a newly-FDA-approved vaccine, [Shingrix](#), as the preferred vaccine to prevent [herpes zoster \(shingles\)](#) – a painful and potentially debilitating condition that affects 30% of Americans over the course of their lifetimes. Up to a third of those infected with shingles develop severe chronic pain known as postherpetic neuralgia (or PCP) that can last for months or longer. ACIP recommends Shingrix be administered to immunocompetent adults ages 50 and older, marking a shift from the previous recommendation to begin shingles vaccination a decade later at age 60. In clinical trials following patients for four years, Shingrix demonstrated over 90% efficacy across all age groups. In contrast, the only other licensed shingles vaccine, Zostavax (a live virus vaccine), prevents 50% of shingles cases and wanes in efficacy over time; by five years post-vaccination, efficacy falls to 35%. Data also reveal Shingrix to be about five times more effective at protecting the oldest age groups studied; it boasts a 91% efficacy for adults in their eighties compared with 18% for Zostavax. By preventing shingles, Shingrix also reduced the overall incidence of PHN.

#### [Key information about Shingrix:](#)

- Shingrix is a non-live, recombinant, adjuvanted vaccine produced by GlaxoSmithKline (GSK).
- Two doses of Shingrix given two to six months apart are needed for maximum protection. Little is known about the vaccine's efficacy when just one dose is delivered. Adults who have already received Zostavax or who have had shingles should still get vaccinated with Shingrix. ACIP will likely establish a minimum interval of eight weeks between the last dose of Zostavax and the first dose of Shingrix.
- Clinical trials did not find any evidence of an increased risk of serious adverse events. About 80% of those vaccinated experienced a mild vaccine reaction, most commonly tenderness at the injection site and a sore arm. **About 40% of people also developed more general side effects, such as muscle ache, fatigue and headaches that resolved in two to three days**, and about 15% of people had a reaction that interfered with their daily activities but then

resolved in two to three days. Patients should be counseled that these side effects may occur in order to ensure compliance with the complete 2-dose series.



- Shingrix will be covered by Medicare Part D and private insurance. After CDC officially adopts the ACIP preferential recommendation for Shingrix, insurers have one year to cover the vaccine. The out-of-pocket cost will be \$140 per dose, and \$280 for the two-dose series.
- Shingrix is contraindicated for anyone who has a history of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine or after a previous dose of Shingrix. Shingrix was not studied in pregnant or lactating women or in severely immunocompromised individuals.

#### *Third MMR Dose Recommended During Outbreaks for Populations at Increased Risk*

At its October meeting, the ACIP also addressed the question of whether a third dose of mumps-containing vaccine could help curb outbreaks. From January 2016 to June 2017, there were 150 mumps outbreaks with 9,200 infections nationwide, including [outbreaks in South King County](#) and at the University of Washington. In King County and elsewhere, a [majority of those infected](#) were up-to-date on MMR vaccinations. Experts posit that [waning immunity](#) may be a key factor responsible for the [fre-](#)

## ACIP Recommendations, cont'd.

[quency of outbreaks](#) among predominantly vaccinated populations with close interpersonal contact, such as college students. Drawing on a [recent study](#) showing that a third dose of MMR vaccine conferred 78% greater protection than two doses alone, ACIP members voted to recommend a third dose to patients in outbreak settings **who are considered by local public health officials to be at increased risk** of contracting mumps. People in close contact settings, such as college dormitories and sports teams, may be likely candidates for a third MMR dose during outbreaks.

### Preventing Shoulder Injury

The ACIP also discussed “shoulder injury related to vaccination” (SIRVA). SIRVA is thought to be caused by an immune response following unintentional, direct injection of a vaccine into the shoulder’s deltoid bursa or joint space, triggering the rapid onset of pain and limiting range of motion for one or more weeks after vaccination. Data from the Vaccine Adverse Event Reporting System ([VAERS](#)) indicate that SIRVA has been reported with increasing frequency in recent years. SIRVA was added to the Vaccine Injury Compensation Table in 2017. The CDC offers [education and tools](#) to help vaccine providers use correct injection techniques. More information can be found on [CDC’s website](#) and through [CDC’s training module on vaccine administration](#).

## Frequently Asked Immunization

### Questions

Our Public Health Nurses field immunization questions from providers across the county on everything from catch-up schedules to correcting vaccination errors. Here are some of the most common inquiries we get.

#### INCOMPLETE IMMUNIZATION RECORDS

**A new patient doesn't have immunization records. What should I do?**

Patients without written, dated vaccination records should be considered susceptible to disease. Vaccination should be the first approach when a patient's immunity is unknown, even if the patient suspects s/he has already been immunized.

**Can I enter information in WAIS (i.e. Child Profile) or our practice's EMR based on a patient's verbal account of her vaccination history?**

No. Only written and dated vaccination records should be entered in [WAIS](#) or your clinic's EMR.

**A patient has documentation of an incomplete series. How should I proceed?**

You do not need to repeat the full series. Give the remaining doses according to schedule and document accordingly.

#### ADMINISTERING VACCINES OFF SCHEDULE

**A 7-month-old infant will be traveling abroad. Can he receive MMR vaccine? What about during an outbreak?**

In both circumstances, infants between six and twelve months can receive a dose of MMR. However, they will still need two full doses given according to schedule.

**A 30-year-old patient is requesting HPV vaccine. Can she get it?**

Giving HPV to an adult over 26 is an off-label use, and doing so is at the provider's discretion. The immune response may not be as strong as in a younger adult or adolescent, and insurance may not cover vaccination.

**In general, what should I keep in mind when considering whether or not to give a vaccine off-label?**

Administering vaccines to a different age or population group than indicated on the label is at the provider's discretion. One should consider the risks and benefits along with other treatments for a patient's condition or situation. If the patient presents with particular symptoms or concerns, you may want consult with a specialist and make a plan with the patient prior to vaccination.

In certain situations, vaccines may be recommended off-label. For example, [Hib](#) is typically a vaccine for very young children, but may be recommended for adults with specific medical conditions.

#### CATCH-UP SCHEDULES

**My patient's vaccination schedule has been delayed. What's the best way to figure out what vaccines she needs?**

## Immunization FAQ, cont'd.

Immunization catch-up schedules for children and adolescents and for adults should answer the majority of your questions. You can also use WAIS's forecast tool to figure out what vaccines are needed. If your EMR has a forecast or catch-up tool, make sure to use the CDC schedule and WAIS forecast tool to verify accuracy.

### **Do I need to re-start a vaccine series if a patient doesn't return at the recommended interval?**

Routinely recommended vaccines do not need to be restarted because of a delayed schedule. You can deliver the next dose in the series regardless of the interval since the last dose. However, the [oral typhoid vaccine](#), recommended for travel to certain areas abroad, may need to be restarted if the vaccine series isn't completed within the recommended timeframe.

## VACCINE ERRORS

### **What steps should I take after making a vaccine error (e.g. accidentally giving the wrong type of vaccine, vaccinating at the wrong age, using expired vaccine, administering vaccine via an incorrect route, site or with the wrong needle size, among other errors)?**

Treat vaccine errors like a medical error or near miss.

1. Notify and assess the patient/family
2. Review corrections needed.
3. Determine cause, factors, influences, and defects in process
4. Follow your institution's policies for reporting errors
5. Report to [VERP](#) (the Vaccine Errors Reporting Program)
6. Report to [VAERS](#) (the Vaccine Adverse Events Reporting System) as needed
7. Document
8. Put steps in place to avoid repetition of errors, including retraining of staff

For more specific guidance, consult this guide on [Vaccination Errors and How to Prevent Them](#).

## Additional Resources:

- You can find all the information in this article and more on [our website](#).
- The Washington Department of Health now has a full-time, dedicated Immunization Nurse Consultant, Trang Kuss. Trang is available to answer clinical questions, assist with vaccine-preventable disease outbreak response, facilitate provider trainings, and test and coordinate IIS forecasting issues.  
**Email:** [immunurses@doh.wa.gov](mailto:immunurses@doh.wa.gov) **Phone:** (360) 236-3760 **Cell:** (360) 878-2003.

## Earn Health Education Credits—Join the 2018 National HPV Learning Collaborative

Beginning in January, 2017, NIPN and the Academic Pediatric Association will be collaborating on a national CDC-funded initiative to recruit health care practices that serve adolescents. Practices that enroll in this 9-month, virtual, multi-state quality improvement project will *receive training in QI methodology*. Participating practices will also implement evidence-based practice changes to increase immunization rates and reduce missed opportunities for HPV vaccine administration. Participants can earn credit towards professional certifications:

- 25 credits toward Maintenance of Certification (MOC), Part 4 from the American Board of Pediatrics (ABP)
- MC-FP credit for 1 Part IV module or 20 Part IV points, from the American Board of Family Medicine (ABFM)
- Up to 20 Performance Improvement Continuing Medical Education (CME) credits

Since 2009, the National Improvement Partnership Network (NIPN) has been driving an evidence-based quality improvement program aimed at advancing quality and transforming healthcare for children and families. NIPN is led by the Vermont Child Health Improvement Program out of the University of Vermont College of Medicine

**Enroll by December 15, 2017 at <https://www.surveymonkey.com/r/NIPAcohort4> [Enrollment](#)**

For more information, contact Rachel Wallace-Brodeur at [Rachel.Wallace-Brodeur@med.uvm.edu](mailto:Rachel.Wallace-Brodeur@med.uvm.edu) or 757-484-1856, or Christiann Stapf at [cstapf@kingcounty.gov](mailto:cstapf@kingcounty.gov) or 206-477-3878.

# The Quarterly

## Public Health Seattle & King County

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

Our monthly **reportable cases table** has moved  
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Program-related questions..... (206) 296.4774

### Communicable Disease Reporting:

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