Science & politics – presidential candidates on vaccination
The science on vaccine safety and efficacy is clear. Vaccines are not the cause of autism or other conditions, and the benefits of vaccines clearly outweigh the risks. Unfortunately, despite the scientific agreement about vaccines, the topic has been a source of discussion during the 2016 United States presidential campaign, and, is shockingly, a measure of the differences among them.

Hillary Clinton – Democratic Party
During this election cycle, Democratic nominee Hillary Clinton is the only major candidate to favor vaccines clearly and consistently. In February 2015, she tweeted: “The science is clear: The earth is round, the sky is blue and #vaccineswork. Let’s protect all our kids. #GrandmothersKnowBest”

Gary Johnson – Libertarian Party
Libertarian Gary Johnson’s personal views on vaccines have evolved quite recently. In 2011, he tweeted, “No to mandatory vaccines.” However, in late August 2016, Johnson reversed his position. In an interview with Vermont Public Radio (VPR) on Aug. 25, Johnson said he became more aware of the concept of herd immunity and now supports mandatory vaccines. Herd immunity occurs when so many people in a community are immunized that even those who aren’t immunized—or who are unable to be immunized—will be protected. Herd immunity requires high enough vaccination rates in a community to prevent diseases from spreading. Johnson also said he believed vaccines were a local issue, but if they became a federal issue, he would “come down on the side of science” and would “probably require that vaccine.”

Dr. Jill Stein – Green Party
Recently, Green Party candidate Dr. Jill Stein, a Harvard Medical School graduate that practiced internal medicine for 25 years, expressed doubt about vaccine safety and vaccine regulations. In an interview with The Washington Post, Stein said vaccines were “an invaluable medication” but that people do not trust the vaccine regulatory agencies such as the Food and Drug Administration, which licenses vaccines, and the Centers for Disease Control and Prevention, which recommends vaccines. She said that mistrust is a result of undue influence by the pharmaceutical industry. In her earlier statements, she invoked her qualifications as a doctor to claim that real concerns still exist among physicians about the vaccine schedule and the alleged toxicity of vaccine ingredients. After the interview, she initially tweeted, “There’s no evidence that autism is caused by vaccines,” but deleted the statement five minutes later and replaced it with more equivocal language, tweeting: “I’m not aware of evidence linking autism with vaccines.” Less than an hour later, she added: “As a medical doctor of course I support vaccinations. I have a problem with the FDA being controlled by drug companies.” Although the only company she stated by name was Monsanto, which doesn’t make vaccines.

Donald Trump – Republican Party
Republican Donald Trump repeatedly claims vaccines hurt kids and cause autism, and opposes mandatory vaccination. During a Republican presidential debate on Sept. 16, 2015, Trump incorrectly linked vaccines to autism, saying he knew a child that developed autism because of vaccination. In the same debate, Trump said he was “totally in favor of vaccines” but wanted smaller doses and to delay and space them out, which is against recommendations of the Centers for Disease Control and Prevention (CDC) and American Academy of Pediatrics (AAP). Trump and other candidates in the debate also criticized the vaccine schedule and mandatory vaccination. The VEC and AAP issued responses echoing the safety and importance of vaccines.

Vaccines should not be a political issue; they are studied scientifically and the recommendations are based on those studies. Presidential candidates need to understand and rely on scientific information if we expect them to make sound policies related to the many issues society faces that have scientific underpinnings. To this end, several scientific organizations have created ScienceDebate.org. As it has during the last two presidential election cycles, the group sent the two party nominees 20 questions that cover the country’s important science and engineering topics in order to gauge each candidates’ positions on scientific issues.
Trivia Answer:
The correct answer is Abraham Lincoln. He became ill with smallpox a few days before delivering the Gettysburg Address. Current research suggests the severity of Lincoln’s illness was downplayed by his doctor to prevent the public from worrying that their president was dying. Go to [vaccine.chop.edu/trivia](http://vaccine.chop.edu/trivia) to play Just the Vax, the Vaccine Education Center’s trivia game, where you can find this question and others like it.

Spotlight: SciCheck
Thanks to the internet, smartphones and a 24-hour news cycle, it is easy to get information these days. Unfortunately, making sure that information is correct and from a reliable source can be more challenging. That can be especially true during a political campaign season. FactCheck.org is a nonpartisan, not-for-profit “consumer advocate” site for voters that monitors the factual accuracy of statements made by U.S. politicians and policymakers. The site includes a special section related to news about science and medicine. The subsite, SciCheck, provides explanations and assessments of accuracy for science-based news, with a particular focus on false and misleading assertions by political partisans who may be attempting to influence public policy.

Ask the VEC: Starting vaccine series over
Q: If my child is behind on vaccines, does he need to start over?
A: Vaccines are often given as a series of shots over a scheduled period of time. However, if a dose is missed, you generally do not need to start the series again, but rather continue where you left off. To assist healthcare providers with catching up those who have missed vaccines or fallen behind on the schedule, the recommended immunization schedule provided by the CDC includes a section with specific guidance.

Around the World: Mosquito-borne illnesses
In recent months, it has been difficult to go even a day without hearing about the mosquito-borne Zika virus in the news. Though Zika virus may be the only mosquito-borne disease currently in the spotlight, it is certainly not the only one that can cause concern. In fact, illnesses spread through mosquitoes account for millions of deaths each year. In addition to Zika virus, mosquitoes can spread these viruses:

- **West Nile** – About 20 of every 100 people infected with West Nile may develop symptoms of severe disease, including high fever, neck stiffness, disorientation and stupor, coma, tremors, convulsions, muscle weakness and paralysis. Infections occur on five continents.
- **Malaria** – This disease is actually transmitted by a parasite that is found in mosquitoes. Severe disease is almost always fatal without treatment. Symptoms can include fever, headache, chills and vomiting. Vaccines and medications to prevent malaria are available, but unfortunately, each year cases of malaria occur in about 95 countries throughout the world.
- **Dengue** – Flu-like symptoms can develop into severe infection with symptoms like drop in body temperature, severe abdominal pain, persistent vomiting and fatigue. There’s no treatment for dengue, which makes early detection and medical care critical to survival.
- **Yellow fever** – Symptoms include fever, muscle pain, headache, shivers, nausea and vomiting, but about 15 of 100 people infected experience a second, more toxic phase. This phase includes high fever, jaundice, bleeding from mouth, nose, eyes an stomach and decreased kidney function. About half of these patients die within 10-14 days. An effective yellow fever vaccine exists, but is not routinely recommended in the U.S. However, in some countries, travelers are required to show proof of vaccination before they can enter the country.
- **Chikungunya** – Symptoms include fever and severe joint and muscle pain, but are often mild. The infection may be undiagnosed or misdiagnosed in areas where dengue is also prevalent. Serious complications are not common but can include arthritic pains and death in older people. Chikungunya occurs in more than 60 countries in Asia, Africa, Europe and the Americas.

Generally, transmission of mosquito-borne illness occurs when a mosquito sucks blood from an infected host and injects it into a new host. The best way to protect yourself against any of these infections is to prevent mosquito bites by: Wearing clothing that covers the skin, using nets when sleeping, and applying repellents with one of the following active ingredients (DEET, Picaridin (also known as KBR3023, Bayrepeℓ®, Icaridin), oil of eucalyptus (OLE), para-menthane (PMD), IR3535).

Subscribe to our newsletter
If you’re interested in receiving our free email newsletter, visit our website: [www.vaccine.chop.edu/parents](http://www.vaccine.chop.edu/parents) to sign up. If you have a question about vaccines, visit the Vaccine Education Center website: [www.vaccine.chop.edu](http://www.vaccine.chop.edu).

Send us your comments
If you have any comments about this newsletter or suggestions about how we can make our program more helpful, please send them to contactPACK@email.chop.edu.