A Perfect Storm Gathers for Zika Virus in the U.S.

*National Geographic* | Once Zika virus arrives in the United States, it will be here to stay. Leading experts now predict that the mosquito-borne disease will become a constant low-level threat that Americans will need to be vaccinated against routinely—as we do now for rubella, a virus that, like Zika, causes birth defects.

That is, once there is a vaccine for Zika. The earliest possible deployment of Zika vaccines could be several years away, researchers from around the globe predicted at an Atlanta conference Tuesday, the annual meeting of the Global Virus Network.

Overall, they said, Zika should be understood not as an epidemic wave that will pass over the world and then vanish, but rather as a permanent problem that will wax and wane, as West Nile virus has.

“We don’t know the future course of the epidemic of Zika, but we have to be prepared for the possibility of a long-term problem,” said Dr. Robert G. Jarrett, director of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health.

A Woman Plays the Odds: Heart Disease vs. Diabetes

*NPR* | Science writer Wendy Wolfson got some cautionary news from her doctor, which led her to make an important decision concerning her health.

Last year my cholesterol shot up despite living nowhere near a decent barbeque joint. I was totally stressed. I wasn’t overweight. But I was pretty sedentary. My doctor prescribed a high dose of Lipitor, a powerful statin.

For women of a certain age, statins are supposedly the best thing since Lycra for keeping wayward bodies in check. Statins interfere with the synthesis of low-density lipoprotein, the “bad” cholesterol. LDL is a prime suspect in heart disease, the top killer of women.

The statin cut my cholesterol like buttah.

But statins can also increase the risk of developing Type 2 diabetes, muscle and/or liver damage. Heart trouble and diabetes

A Community’s Destiny Changes Following Environmental Victory

*The Washington Post* | Baltimore stands apart as the American big city with the most deaths caused by air pollution, and Curtis Bay is its dirtiest community. Several years ago, the air there stood to get even worse when the state approved a permit for a giant incinerator that would burn 4,000 tons of trash every day and emit up to 1,240 pounds of lead and mercury.

DESTINY, continued on page 3

After Record HIV Outbreak, Small Town Tries to Hang On

*The Atlantic* | Jessica and Darren McIntosh were too busy to see me when I arrived at their house one Sunday morning. When I returned later, I learned what they’d been busy with: arguing with a family member, also an addict, about a single pill of prescription painkiller she’d lost, and injecting meth to get by in its absence. Jessica, 30, and Darren, 24,

HIV, continued on page 3

A Last, Daring Heist by UK’s ‘Diamond Geezer’ Burglars

*Vanity Fair* | It required a team with diverse skills. ... It took ingenuity and brute force,” reporter Declan Lawn speculated on BBC television three weeks after what was already being called “the greatest heist in British history,” the audacious April 2015 ransacking of safe-deposit boxes in Hatton Garden, London’s diamond district. The crime was indeed epic. So much cash, jewelry, and other valuables had been taken that the loot, worth up to $300 million according to estimates at the time, had been hauled out of the vault in giant trash containers on wheels. Lawn demonstrated the

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ZIKA, continued

prepared for the virus to be present for years,” José Esparza of the University of Maryland School of Medicine, current president of the Global Virus Network, said at the conference. “Without a vaccine, we will not be able to control the future course of this epidemic.”

Everyone reluctantly accepts that vaccines will take some time, while also expecting that infections could reach the United States soon. “The risk of Zika virus beginning to circulate in the United States on the mainland—it’s already in Puerto Rico, of course—is going to be peaking during the next few weeks,” said Scott Weaver, a virologist from the University of Texas Medical Branch.

“The number of travelers coming into the U.S. with Zika is very high, the temperatures are permissive now for mosquito transmission, and populations of mosquitoes are growing,” he said.

A vaccine is most needed to protect women who are pregnant or planning to be, because the virus causes devastating birth defects that seem to appear late in pregnancy, and may also cause more subtle problems as children get older.

“We have no information to believe there are any long-term consequences from infection to healthy adults or healthy children,” Weaver said.

While a small vaccine trial sponsored by the National Institutes of Health could begin as early as next fall, expanding that research into trials with thousands of participants could be complicated by the rapid growth of the epidemic, which is both infecting people and also rendering them immune once they recover.

The first Zika vaccines to be developed probably won’t go to everyone, Weaver predicted. “I think initially there will be some vaccines developed and licensed that are not optimal for vaccinating large populations, that will require multiple doses,” he said. “Those will probably be targeted to girls before they reach childbearing age, or women … if we can determine that they are not immune, if we have the diagnostics to do that.

“And then eventually we should be able to develop a live attenuated vaccine, like the one we have now for yellow fever that has been available for many decades in South America,” Weaver said. Then, he added, doctors can vaccinate children, and the population will develop what we think of as “herd” immunity that protects even the unvaccinated.

Introducing a Zika vaccine in that manner would follow the path that rubella vaccine took in the 1960s. Before the vaccine existed, epidemics of rubella (also known as “German measles”) caused only mild illness in adults; but the virus had devastating effects when it infected pregnant women.

Read the story, more on the risks for pregnancy, and get information about the Zika virus and preventive measures.
HIV, continued
were children when they started using drugs. Darren smoked his first joint when he was 12 and quickly moved on to snorting pills. “By the time I was 13, I was a full-blown pill addict, and I have been ever since,” he said. By age 14, he’d quit school. When I asked where his caregivers were when he started using drugs, he laughed. “They’re the ones that was giving them to me,” he alleged. “They’re pill addicts, too.”

Darren was 13 when he started taking pills, which he claims were given to him by an adult relative. “He used to feed them to me,” Darren said. On fishing trips, they’d get high together. Jessica and Darren have never known a life of family dinners, board games, and summer vacations. “This right here is normal to us,” Darren told me.

He sat in a burgundy recliner, scratching at his arms and pulling the leg rest up and down. Their house was in better shape than many others I’d seen, but nothing in it was theirs. Their bedrooms were bare. The kind of multigenerational drug use he was describing was not uncommon in their town, Austin, in southern Indiana.

It’s a tiny place, covering just two and a half square miles of the sliver of land that comprises Scott County. An incredible proportion of its 4,100 population—up to an estimated 500 people—are shooting up. It was here, starting in December 2014, that the single largest HIV outbreak in U.S. history took place. Austin went from having no more than three cases per year to 180 in 2015, a prevalence rate far higher, exceeding that of New York City and smoggy Los Angeles.

In 2012 the Food and Drug Administration slapped a black box warning on statins, saying that they could raise blood glucose levels in people at high risk of Type 2 diabetes. That meant an increase of anywhere from 9 to 27 percent in relative risk – in absolute terms about 0.3 excess cases of diabetes for every 100 people who are treated for a year with high-intensity statins (which lower cholesterol by 50 percent or more) and 0.1 excess cases of diabetes for every 100 people treated with moderate-intensity statins (which lower cholesterol by 30 to 50 percent.)

Because doctors disagree on who should get statins, in 2013 the American College of Cardiology and the American Heart Association issued guidelines advising doctors not to treat a cholesterol target, but to prescribe statins if patients fit into one of four risk categories and had an estimated 10-year heart disease risk greater than 7.5 percent.

Read the story, more on statins and get information about women and heart disease. ■

DESTINY, continued
every year. But destiny intervened. More specifically, a 17-year-old high school senior named Destiny Watford.

Outraged that her community was again “being dumped on,” the self-described shy girl led fellow students at Benjamin Franklin High School in a four-year campaign that mobilized Curtis Bay and halted the incinerator’s construction indefinitely. As state environmental officials seek to revoke the permit for good, Watford is being honored with one of the world’s most prestigious environmental awards.

Recently, she was announced as a 2016 Goldman Environmental Prize winner for her community leadership.

Not only is Watford, at 20, the youngest of this year’s six recipients—who hail from Slovakia, Cambodia, Tanzania, Puerto Rico and Peru—she’s the third-youngest honoree in the history of the prize. She says she never imagined becoming an activist, let alone that her efforts would allow her to stand shoulder to shoulder with internationally recognized advocates of environmental justice. But her mother, Kimberly Kelly, isn’t surprised.

“I have five kids,” Kelly said, “and I just knew she was going to be different.”

Growing up in Curtis Bay, a community of rowhouses near Baltimore’s industrial southern tip, Watford watched her mother struggle with asthma. She knew neighbors afflicted with respiratory disease. During the campaign, when she and other students asked members of an art class at Franklin High if any of them had asthma, “almost every hand shot up,” Watford recalled last week.

A 2013 study by the Massachusetts Institute of Technology found that 113 people per 100,000 Maryland residents—higher than in any other state—die as a result of emissions from car and truck traffic, trains and ships, commercial heating systems and industrial smokestacks. Baltimore’s rate was far higher, exceeding that of New York City and smoggy Los Angeles.

Read the story, and get more information about air quality and its effects on health. ■

ODDS, continued
run in my family. Was I trading a heart attack for diabetes?

“We give statins to people with diabetes,” was all my doc said.

That didn’t answer my question. I knew from an unrelated test that I did not currently have coronary artery disease, so I decided to investigate the statin situation.

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