Danielle Lloyd, a former Miss Great Britain and celebrity mother of four boys, wants to guarantee that her next baby will be a girl. So, she revealed in a TV interview last year, she’s planning to get pregnant through in vitro fertilization.

The news sparked an uproar in Britain, where screening embryos for gender is prohibited at IVF clinics. Unruffled, Lloyd, 35, began checking out clinics in the few places on the planet where the service is readily available: Cyprus, the United Arab Emirates - and the United States.

“I can see why people are against it, and I don’t want to upset anyone,” Lloyd said. “But I can’t see myself living not having a daughter when I know it’s possible.”

While many countries have moved in recent years to impose boundaries on assisted reproduction, the U.S. fertility industry remains largely unregulated and routinely offers services outlawed elsewhere. As a result, the United States has emerged as a popular destination for IVF patients from around the world seeking controversial services - not just sex selection, but commercial surrogacy, anonymous sperm donation and screening for physical characteristics such as eye color.

This freewheeling approach has been good for business; the U.S. fertility industry is estimated to be worth as much as $5.8 billion this year. But as technological advances outpace any social consensus on such forms of reproductive intervention, discomfort with the hands-off status quo is rising.

Last month, news that a U.S.-educated Chinese researcher had created the world’s first gene-edited infants reignited a debate over the morality of “designer babies.” Some scientific leaders blasted the effort, which purported to make the babies resistant to HIV infection, and urged the U.S. government to step in.

In an interview, National Institutes of Health Director Francis Collins condemned the gene-editing experiment as an “epic scientific misadventure,” and said he is seeking to establish a forum for oversight and public debate about the technology and related areas of science.

Collins said he also is concerned about the rise in the screening of embryos for characteristics such as intelligence, physical appearance and gender. Though editing a baby’s DNA is fundamentally different from picking and choosing among embryos created by nature, the
In the United States, the legality of procedures raise similar ethical questions about manipulating human reproduction.

“IVF clinics have had pretty free rein, and some would look at their pathway as being a bit free and easy in terms of new developments,” Collins said, adding that U.S. clinics have “a bit of a reputation of being cowboys.”

“They help a lot of people … and that’s largely a good thing,” he said. “But one might wonder if there is a need for more oversight than we currently have.”

The story of how assisted reproduction escaped regulation in the United States begins in the 1990s, when national politics were driven by disputes over procreation, contraception and abortion.

Abortion doctor David Gunn was killed by an antiabortion activist in 1993, and the nation’s abortion clinics were under siege.

Amid this tumult, a panel of scientists, legal experts and ethicists convened by NIH released a report in 1994 on research involving human embryos.

The report called for federal funding to support research that involves the creation or expenditure of federal funds for any proposed. Instead of supporting research provision to an appropriations bill that did the opposite of what the NIH paper did the opposite of what the NIH paper did.

Reps. Jay Woodson Dickey Jr., R-Ariz., and Roger Wicker, R-Miss., added a provision to an appropriations bill that did the opposite of what the NIH paper proposed. Instead of supporting research and government regulation, it prohibited the expenditure of federal funds for any research that involves the creation or destruction of human embryos.

The amendment was intended to help siteless lawmakers navigate a touchy issue, allowing them to vote against public funding for embryo research while permitting such research to continue in the private sphere.

The ban, which remains in effect, “laid the backdrop for a more hands-off regulatory approach,” said Michelle Bayefsky, a former bioethics fellow at NIH who has written a book about PGD.

The debate evolved very differently on the other side of the Atlantic. Like the United States, Britain put together an expert panel to study assisted reproduction. The panel suggested the establishment of a public body to oversee human embryo research, regulate fertility clinics and take the lead on debates about new technologies. Parliament concurred and in 1990 established the Human Fertilization and Embryology Authority (HFEA), the first statutory body of its kind and a model emulated by other countries.

Today, the HFEA is overseen by Peter Thompson, a career government official who previously worked in the Ministry of Justice and the Cabinet Office. Thompson directs a staff of 70 officials who previously worked in the Ministry of Justice and the Cabinet Office. Thompson directs a staff of 70

Meanwhile, Britain in 2017 became the first country to formally license the procedure—though only for women with heritable diseases. While no babies have been born yet, Thompson said several women are undergoing the procedure at Newcastle University.

HFEA takes a similar approach to gender selection, permitting it only when a parent carries a heritable disease that affects just one sex.

“These treatments are not being used for nonserious matters,” Thompson said. “These are really unpleasant illnesses. The majority of the British public feel these interventions are justifiable where harm is that great.”

Numerous other countries also are tightening their regulation of the fertility industry. Last year, India banned commercial surrogacy. Next year, Brazil and Peru plan to follow suit.

A survey published in March in the Journal of Assisted Reproduction and Genetics found that nearly 73 percent of U.S. fertility clinics offer gender selection. Of those, nearly 84 percent offer it to couples who do not have fertility problems but are considering IVF solely to control the pregnancy’s outcome.

Model and cookbook author Chrissy Teigen is among the satisfied customers. Teigen, who sought IVF for infertility issues, tweeted in 2016 that she was pregnant with a daughter, adding in a magazine interview: “I picked the girl from her little embryo.” Meanwhile, international agencies with names such as Gender Selection Australia say they are sending thousands of patients a year to IVF clinics in the United States to take advantage of the service.

And Steinberg says would-be parents are starting to demand even more screening options. He estimates that he has helped 70 couples screen for eye color (the success rate is about 60 percent—a little better than a coin flip) and is wor-

Embryologist Heather Marks opens one of several nitrogen tanks that collectively hold tens of thousands of frozen embryos and eggs at New Hope Fertility Center in New York, N.Y., in December 2017. MUST CREDIT: Washington Post photo by Carolyn Van Houten
king with 20 more. Blue is the most-requested color, followed by green.

"People call up asking for all kinds of things: Vocal ability, athletic ability. Height is a big one. I have a lot of patients who want tall children," he said.

So far, Steinberg and other fertility specialists have not been able to identify the genes that drive those traits. But he believes they will be found. And when that happens, he will offer to screen for them.

"If you do what I do, you can’t have a strong ethical opinion," he said, unless parents ask for “something that is going to be harmful.”

The technology is moving fast. One biotechnology company, Myrome, says it will soon offer couples undergoing IVF the ability to identify embryos most likely to grow into healthy adults by calculating their risk of a wide spectrum of diseases and disorders. Another company, Genomic Prediction, is rolling out an intelligence screening service that it says will help parents identify and reject embryos with a higher risk of growing into a children with lower IQs.

This spirit of experimentation has made the United States a popular destination for wealthy fertility patients from around the world - particularly China, where gender selection is largely prohibited.

Last month, Steinberg spoke at a conference in Beijing at the invitation of a China-based fertility travel agency. He was treated like a celebrity: The agency put him up at the Four Seasons hotel and, after his talk, prospective parents mobbed him, forming lines that snaked around the hall. He stayed until well past midnight talking with hopeful couples. Within weeks, five of them had flown to his California clinic.

As for Lloyd, the former Miss Great Britain, she has made tentative plans to start IVF treatment this summer in Dubai. She was treated like a celebrity: The agency put her up at the Four Seasons hotel and, after her talk, prospective parents mobbed him, forming lines that snaked around the hall. She stayed until well past midnight talking with hopeful couples. Within weeks, five of them had flown to his California clinic.

But Lloyd said she has no interest in any other form of screening, whether for eye color or height.

"There’s no need to do something like that," she said. "All I want is a healthy baby girl. I don’t care what she looks like.”

Island infection threatens wild horses

By Steve Hendrix

CHINCOTEAGUE NATIONAL WILDLIFE REFUGE, Va. - In the cold months, this barrier island is a place of austere stillness, its famed wild ponies grazing among brown marshes, their long faces reflecting in waters often skinned in ice, their seasonally shaggy coats flickering in the chill breeze. But the off season covers the not-very-careful anxiety. There is a danger lurking, literally, underfoot. In recent months, seven of the horses have picked up a fungus-like infection in their hoofs and legs, probably by stepping in contaminated wetlands. Seven have died, including four that were euthanized Friday at a field hospital set up to treat them on the Chincoteague Fairgrounds.

“Shadow, Lightning, Calzett’i’n and Elusive Star as well as the others received the very best care money could buy,” Denise Bowden, a spokeswoman for the Chincoteague Volunteer Fire Company, which manages the herd, announced on Facebook Friday night. “They just couldn’t fight this off.”

Managers of the herd worry that warmer weather will bring yet more infections and, potentially, a serious threat to the beloved ponies, one of the region’s iconic tourist draws and a feature of the beloved pony races for centuries.

“We’re not panicking, but we’ve never faced a situation like this before,” Bowden said as vets were still trying to save the last four ponies the week before Christmas. “It’s been very, very trying.”

Most of the 150 or so horses roam loose in different parts of the refuge. But Bowden was standing next to a pen where several late-born ponies were spending their first winter with their mothers. Sheltering from the offshore breeze behind a line of bush, the gangly little foals alternately dozed in the sun and nudged the mares for milk. A group of three adult horses grazed in an adjacent enclosure, newly arrived gifts from Chincoteague pony raisers wanting to replace some of the recently lost animals.

In the middle of the compound is a long shed newly fitted with canvas sides. Inside, the four remaining infected animals were being seen regularly by two herd veterinarians. Before their deaths, about 20 volunteers from the fire company tended to their daily needs, which included removing and burning the stable muck.

“Sometimes they just sit in there talking to the horses,” Bowden said. “Some of these folks are exhausting themselves. The unexpected malady is pythiosis, an infection typically caused when a horse steps in water carrying a fungus-like organism known as Pythium insidiosum. Pathogens can enter small cuts or abrasions and, in some horses, create itchy, swelling lesions that will eventually become tumor-like growths. Untreated, the infection is invariably fatal.

The disease, sometimes known as swamp cancer, strikes mostly horses and dogs and has long been known in subtropical areas, including Florida. But cases are becoming more common in higher latitudes in recent years, with some reported as far north as Minnesota.

“It’s an emerging disease,” said Rick Lund Hansen, a research veterinarian in Oklahoma working on a vaccine and countered a group of German soldiers on the train.

Loinger, who had prepared a cover story, told the soldiers the kids were refugees from bombed-out Marseille, traveling to a health camp. But when the train arrived at Annemasse, one of the German officers offered to escort the group, saying: “Listen, these kids are tired. Let us hasten the exit procedure. I’ll tell the police you’re with us.”

“They followed an extraordinary sight,” Loinger said, according to “Saving One’s Own.” “Fifty German soldiers, singing, en route through the city of Annemasse, with 50 Jewish children and me marching in step behind! Once we reached the reception center, the convoy came to a halt. The German saluted me, and the children and I went in - seen to the door under official German protection.”

new treatments for pythiosis. “It seems to be moving north with the changing climate.”

There have been occasional unconfirmed cases of the disease among Chincoteague ponies over the years, according to Charles Cameron, the herd’s primary veterinarian for 29 years. But he’s seen nothing like the spate that began two years ago and spiked significantly this past autumn.

It was in late summer 2016 when volunteers spotted a mare with small sores above her hoofs. Blood tests would confirm pythiosis and, caught early, it was successfully treated. But finding it at that initial stage may have been rare luck, as the ponies roam largely unmonitored over more than 4,000 acres. In 2017, two more infected animals were found with more advanced infections and, despite aggressive treatment, both died.

This year, one was successfully treated in the spring, Cameron said. But then started a grisly run. In late August, volunteers spotted a 13-year-old mare, Lyra, with suspect lesions. Several other cases were diagnosed in the fall, prompting managers to set up an intensive treatment regimen that has included immunotherapy and, in some cases, cutting away infected tissue surgically. The group has spent more than $25,000 on treatments.

“When you don’t catch it early, it’s just out of control,” Cameron said of the rapid growth of the tumor-like tissue. “It’s like a brain growing on their fetlock.”

At one point, hopes grew that at least some of the horses could be saved. But secondary infections set in and the pythiosis seemed to return in some cases. One pony died in October, another on Dec. 3. Two weeks later, Lyra, the first case discovered this year, was euthanized after she was no longer able to stand.

“It’s horrible,” Bowden said. “I’ve seen grown men bawl like babies when we have to put a horse down.”

It would be hard to overstate the cultural and economic role the horses have played here for centuries. They are long-feral descendants of domesticated livestock, and local legend has it that they first swam ashore as refugees from a foundering Spanish ship in the 1600s. Biologists, though, say they are more likely remnants of animals introduced by mainland settlers.

Whatever the origin story, they have long been a defining feature of island life, cared for by folks, like Bowden, who grew up with them on Chincoteague and beloved by visitors from around the world, including many entranced by the 1947 children’s classic “Misty of Chincoteague.”

The fame of the herd has proved to be an asset as the local veterinarians reach out to experts for help in addressing the outbreak. Robert Glass, a Texas-based researcher, has been providing his new immunotherapy drugs free of charge.

“He read ‘Misty’ as a kid,” Cameron said.

And Hansen, who hopes to secure final government approval for his company’s pythiosis vaccine in 2019, is seeking permission to vaccinate the Chincoteague herd even sooner on an experimental basis, a prospect that Cameron hailed as their best chance to avoid a bigger epidemic.

An effective vaccine would protect the herd, but it wouldn’t clear the pathogen from the natural habitat, Hansen said, especially with more infected horses spreading it from pool to pool. Still, the keepers of the ponies want the refuge to take action, including clearing away old barbed wire that can be exposed by storms and increase the risk of cuts. The organism can’t penetrate healthy skin.

Refuge officials said they were in contact with the herd managers and were exploring steps they could take. No other animals have been found with the infection, they said.
“There's a lot we don't know,” said Michael Dixon, the refuge's visitor services manager. “But we're partners, and we'll do what partners need to do.”

He was walking on Assateague’s north end, a patch of bristly pine trunks denuded by a recent pine beetle infestation. It’s not easy living for anything on an island that, in biological terms, ranks as an extreme habitat.

Not far away stood a group of the refuge’s most famous residents, casting long shadows in the winter sun. The stallion and three mares picked for greens amid the cold, dormant marsh grass, grazing their way through a season of uncertainty.

Virginia begins steps to repair Flawed criminal-records database

In the commonwealth of Virginia, it’s a crime to drive a school bus if you’re a registered sex offender. No surprise there, and not a likely scenario. But it’s only a misdemeanor, and there’s no requirement that school-bus-driving sex offenders be fingerprinted under state law.

The same is true for drunken-driving of a commercial vehicle, or misdemeanor cruelty to animals: no requirement that the arrestees be fingerprinted. The realization that there are many crimes in Virginia that do not cause people to be fingerprinted was discovered by the Virginia State Crime Commission as it dug deeper into the question of why 750,000 conviction records are missing from the state database used to run background checks for gun purchases, court sentencings, employment and more.

The state enters conviction records into its database only when there are accompanying fingerprints - a rule aimed at confirming defendants’ identities. In some cases, fingerprints weren’t taken because of gaps in the arrest or court process. But in others, the prints simply weren’t required.

The crime commission revealed the missing records in October, which included more than 300 murder convictions and 1,300 rape convictions dating back largely to 1999. Now the commission has devised a set of recommendations that could repair some big holes in the database, and also amend gaps in the law so that everyone arrested for any jailable crime and many other misdemeanors will have fingerprints taken - and records entered into the state database - in the future.

Among the more significant steps suggested to repair the current database is to incorporate the fingerprints taken by the state Department of Corrections when convicted defendants enter prison or begin felony probation. Colin Drabert, the crime commission’s deputy director, said the commission found that the commonwealth’s prison system has 500,000 sets of prints on file, which it provides to the Virginia State Police. The state police run the Central Criminal Records Exchange but state law has never incorporated the prison system’s prints into the records database, Drabert said.

The database is not publicly accessible. But fingerprints often aren’t taken at the outset of a case, particularly on arrests done with a summons such as...
marijuana possession, where the suspect isn’t booked into jail. And when a person goes to court and is convicted, or mails in a fine, their prints sometimes aren’t taken at the courthouse.

The crime commission said one option would be amending state law to require the collection of fingerprints when summonses are issued. But it acknowledged that the technology may not be available for patrol officers to take 10 prints from every potential violator, that it would be time-consuming and that ink-card submissions may not be as accurate as the electronic Live Scan machines used at nearly all Virginia jails now.

In a report issued Dec. 3, the crime commission found that about 55,000 unique individual convicted felons are missing from the database. More than 2,500 robbery convictions and 1,500 weapons convictions are missing from the database. The commission’s executive director, Kristen Howard, said that one way felonies can be excluded is when the prints are entered but only applied to one count among multiple counts filed and that count ends up dismissed - or when new counts are added as part of a plea deal.

The direct indictment of defendants not initially arrested by police but simply charged later by prosecutors may have enabled some felons to avoid being fingerprinted. The commission calls for repeated checks by judges and court officials along the way to verify that the person is fingerprinted and in the system, right down to probation officers making sure that their clients are in the database before releasing them from probation.

The crime commission first found the problem when looking at dispositions of marijuana cases. It discovered that the court system had reported 11 million convictions on all crimes dating to 2000 but that the database contained only 10.2 million convictions. About 90 percent of the 750,000 missing records lacked fingerprints, while about 10 percent were missing because of other errors.

About 35 percent of the missing cases were felonies. But the 65 percent that are misdemeanors can involve drug charges, assaults, drunken driving and family abuse, any one of which could be disqualifying convictions for someone seeking a gun or professional license. Police officials noted that missing fingerprints could also hamper crime solving when police find latent prints at a crime scene. The crime commission called for new requirements for state police to submit reports seeking to reconcile missing information from cases and to submit an annual report on the status of incomplete cases.

The commission also found that some fingerprints from completed cases may be on file in the relevant courthouses but were simply never submitted to the database, said Del. Rob Bell, R-Albermarle. The commission is urging counties to try to match up missing convictions with fingerprints where they can, Bell said, since convictions may not be added to a defendant’s record without the fingerprints.

“The goal will be to stop these problems going forward,” Bell said, “and fixing it for all the cases who didn’t have prints done the first time.”

Sign up for the Today’s WorldView newsletter from The Washington Post.

Bus and rail systems’ Wi-Fi can be spotty or nonexistent

By Faiz Siddiqui

On her daily commute from Baltimore to Philadelphia via Amtrak, Uschi Symmons depends on a stable internet connection to begin the workday during the 7 a.m. ride. That means responding to emails, analyzing data and preparing for her lunch break as an experimental scientist at the University of Pennsylvania.

The problem is that the onboard Wi-Fi isn’t always reliable.

“If you cannot open a Google doc, it’s bad,” said Symmons, 34, a monthly-pass rider who recently upgraded her data plan and added a mobile Wi-Fi hotspot to manage the commute. “When I did it, I was, like, ‘I can’t believe I’m paying over

To Page 8 ➤
We were both deeply involved in our nation’s fight against al-Qaida and its early fight against the Islamic State, and we both believe it is imperative that President Donald Trump remember what we consider to be the most important lesson of counterterrorism - the ability of a terrorist group to quickly regenerate if the pressure on it is reduced. Thus, we do not keep the pressure on the Islamic State and other groups, we believe we will again face a threat to our homeland.

We saw this pattern repeatedly during our careers - always with potentially devastating consequences. When the United States drove al-Qaida out of Afghanistan in the fall of 2001, the group went to prearranged safe houses in the urban areas of Pakistan, where it continued to conduct aggressive attacks. Over the next year, the CIA, with the assistance of Pakistani intelligence, systematically captured many al-Qaida members, including a number of the group’s senior figures. This reduced the group’s capabilities to attack us.

The remnants of al-Qaida then moved again, this time in 2003 to tribal areas of Pakistan - in a remote region along the Afghanistan-Pakistan border where the Pakistani government has limited control, and where the group was no longer under pressure from the U.S. or Pakistani authorities.

Without that pressure, the group’s capabilities to attack us rebounded. By the summer of 2005, al-Qaida directed and organized the July 2005 London bombings. And by the summer of 2006, al-Qaida was able again to catastrophically attack the United States. These terrorist networks and significant, the Pakistani intelligence services prevented a plan to detonate explosives on 10 to 15 airliners traveling from the United States to London’s Heathrow Airport. In response, the George W. Bush administration began, and the Obama administration continued, an aggressive, five-year counterterrorism operation along the Afghanistan-Pakistan border that significantly weakened al-Qaida.

A similar dynamic took place in Yemen. In free data packages - a “Platinum” package with 300 megabytes of data runs $6.99. From an internet-usage perspective, the tiered system allows for more bandwidth than other carriers across our internet packages, said Crystal Booker, a Greyhound spokeswoman.

Booker said the tiered system has been found to cover the variety of situations travelers face. “While our complimentary service is designed to work effectively for the average user, our upgrade options work well for those who are aiming to work or study over an extended period,” she said. “This will then require access to additional data.”

Greyhound also said it encounters fewer service disruptions than competitors because it taps into cell carriers, though without concrete data on Wi-Fi reliability from each bus line, it was hard to weigh the assertion.

Greyhound noted Bolt Bus, meantime, responded to questions with a copy of its Wi-Fi disclaimer warning of possible “unforeseen” Wi-Fi disruptions beyond its control. The company added that it “cannot offer a refund on a free service” for customers unsatisfied with the experience. Gizis said the bus networks remain a work in progress.

“Amtrak is the huge success story for all of us because the way it comes and goes we can be downright magical in that situation,” he said.

Rachel Sabella, 38, a Queens resident who works for a nonprofit organization, found herself on several Amtrak trips along the Northeast Corridor, beginning late last month. Twice in one week, she was on a train that lacked Wi-Fi - on one of them, the power outlets did not work at all. It was a frustrating experience on a mode of travel that had been otherwise consistent.

“I’m not watching movies. I’m trying to work well for those who are aiming to work or study over an extended period,” she said. “This often requires access to additional data.”