

Will 'superbug' in Rio's waters harm Olympic athletes?

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Credit: YoungHee Jang

The Summer Olympics in Rio de Janeiro have been overshadowed by a plethora of concerns—civil unrest, shoddy construction, and the Zika virus, to name a few—and the Games are still about a month away. Now

a new study from a team of Brazilian scientists has found that a drug-resistant bacterium called Carbapenem-resistant Enterobacteriaceae has been growing off two city beaches bordering Guanabara Bay, where Olympic sailors will compete next month.

We asked Daniel Faber, sociology professor and director of Northeastern's Environmental Justice Research Collaborative, to discuss the social, political, and scientific implications of the findings.

First and foremost, why are the 2016 Olympics being so heavily scrutinized?

The Olympics are a moment when the entire world becomes focused on the nation host. It is considered a showcase event, where the country's leaders hope to put on full display the major economic and social advances of the country. Instead, Brazil is sinking deeper and deeper into a profound political, economic, and ecological crisis that is there for the whole world to see. It is a crisis rooted in the adoption of corporate-led neo-liberal development policies that are exacerbating inequality between the country's economic elites and the poor and working classes. And in this case, the ecological crisis is posing a direct threat to the health and well-being of not only the Brazilian people, but the Olympic athletes themselves. Brazil is worried about the potential of the country's environmental problems to not only destabilize the Olympics, but to also destabilize the country.

The same was true for China prior to the 2008 Olympics, in which a series of severe air pollution alerts in Beijing also threatened the health of Olympic athletes and spectators. The magnitude of this ecological crisis is apparent in a 2007 draft report by the World Bank and China's State Environment Protection Agency, which found that 1 million people die prematurely in China each year, mainly from air pollution in the

large cities. In fact, the numbers are so mind-boggling that the Chinese government "persuaded" the World Bank to remove nearly one-third of the report's information on pollution prior to its official release because it would have provoked "social unrest" among the masses. Missing from the final report are the original findings that high air-pollution levels in Chinese cities are causing the deaths of 350,000 to 400,000 people each year.

What deleterious effects might Rio's polluted waters have on Olympic athletes?

Brazil promised to clean up the bays and beaches of Rio prior to the Olympic bid, "setting a new standard of water quality preservation for the next generations," but it never did so. The Associated Press conducted two investigations based on independent water-quality testing. The first found that Olympic athletes are "almost certain to come into contact with disease-causing viruses that in some tests measured up to 1.7 million times the level of what would be considered hazardous on a Southern California beach." The second study showed that the Olympic waterways teem with viruses and bacteria even far from land. The AP's water tests found that Ipanema Beach—as well as neighboring Leblon beach and parts of Copacabana—contained fecal coliforms at three times the acceptable level. As recently as 2011, it was unsafe to swim there 40 percent of the year. How is it going to be safe for the Olympic Marathon swimmers and triathletes to swim there?

Officials have already acknowledged that they will only be treating about 65 percent of the sewage flowing into the Guanabara Bay. A recent outbreak of the Zika virus is even more concerning, which water pollution is playing a role in aggravating. Pools of standing water accumulate all around Rio's favelas, or informal settlements of poor residents, where sanitation systems are aging or inadequate. The pools of

standing water found throughout Rio's favelas are prime breeding grounds for Zika virus carrying mosquitoes.

Some 8,200 liters of untreated sewage flow into the bay through the city's rivers, and the AP found that ingesting just three teaspoons of its waters would result in a 99 percent chance of infection. At test events, about 7 to 9 percent of sailors have been getting sick, a rate that the International Sailing Federation deems acceptable but is still higher than the Environmental Protection Agency's maximum illness rate for swimming—3.6 percent.

Despite warnings from scientists and officials, why isn't more being done to clean up Rio's waters?

There is not enough being done. The 2009 Olympic bid from Brazil pledged full environmental "regeneration," including treating 80 percent of the sewage that flows into Guanabara Bay. Officials have long ago stopped pretending that this goal would be met. Steeped in a deepening economic crisis, there is a lack of political will among the nation's ruling elites to spend the necessary money to build a 21st century sanitation system. Ahead of the Olympics, authorities pledged to install eight treatment stations inside the rivers that flow into the bay. But they're not all constructed yet, let alone working. And Rio isn't the only Brazilian city that struggles with its sanitation. A 2015 survey found that 3.6 million people across 100 Brazilian cities didn't have sewage hookups.

Provided by Northeastern University

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