With over 32,000 cases of the Zika virus confirmed in the United States, scientists and public health officials are scrambling to contain the virus and prevent its spread. The focus is on the Aedes aegypti, the mosquito largely responsible for the spread of the Zika virus in southern Florida and other areas around the globe. Unlike the salt marsh mosquito, which can largely be contained by spraying insecticides, the Aedes aegypti is more problematic and difficult to control. It thrives in residential areas and often lays its eggs in vessels of standing water left by humans, such as bottle caps, old milk jugs, or plant pots. Even if there is no standing water in these containers, the Aedes aegypti’s eggs will lay dormant in a dry container until a rain event. In the past, the most effective eradication techniques have been labor and resource intensive that involve door-to-door campaigns to search and destroy potential breeding grounds.

However, recent technological innovations may result in a new way to combat the Zika virus. Oxitec, a British company, spent the past several years developing OX513A, a genetically modified male Aedes aegypti mosquito. OX513A are engineered to require a certain protein, only available in the lab, to survive. When they mate with wild females, they pass this trait on to the offspring, who die before reaching maturity because they do not get the required protein in their diets.
Oxitec has conducted field trials in Brazil, the Cayman Islands, and Panama, which conclude, according to the company, that the population of *Aedes aegypti* can be reduced by 90% in 6 months [5]. The company now wants to work with the Florida Keys Mosquito Control Board to conduct a similar field trial in Key Haven, Florida.

However, residents of Key Haven and others have expressed concerns in using the community as a testing ground for an experimental technology and residents have expressed concerns that there may be unintended consequences to human health, safety, and the environment. In response, the Florida Key Mosquito Control Board, the five-member body that has the authority to authorize the Oxitec field test, agreed to hold a referendum to allow residents to weigh in on the proposed trial. While local law requires the referendum, which takes place on November 8th, to be non-binding, three of the five board members have said they will adhere to the wishes of the public.

As rapidly changing technologies emerge amidst time-sensitive public health, safety, or environmental crises such as Zika, questions emerge as to the role of democracy in deciding how to balance technology and risk. While some argue that the public does not have the scientific knowledge or expertise to make these types of decisions, members of the public are becoming increasing vocal when they perceive they are being put at risk without being part of the decisionmaking process. The mosquito board’s decision to consider public input is just one example of ways policymakers are working to ensure all stakeholders have a seat at the table.

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