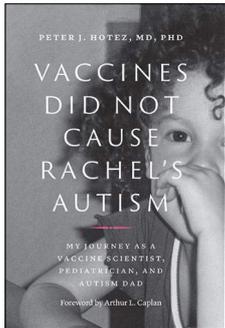




## Book

## A personal crusade against the anti-vaccination movement



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**Vaccines Did Not Cause Rachel's Autism: My Journey as a Vaccine Scientist, Pediatrician, and Autism Dad**

Written by Peter Hotez,  
John Hopkins University Press,  
2018  
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In 2014, a few days before Christmas, seven children, including an unvaccinated 11-year old, were hospitalised with measles following their visit to a theme park in Orange County, CA, USA. By February 2015, the US Center for Disease Control and Prevention had recorded more than 100 cases of measles and traced the origin of the outbreak back to the theme park. The majority of patients were either unvaccinated or their vaccination status was unknown. At least 28 patients were intentionally unvaccinated owing to their or their parents' beliefs. Only 11 individuals who contracted measles in the outbreak were known to be vaccinated at least once against the disease. An outbreak of this magnitude should not have happened in a country where measles was declared eliminated in 2000, thanks to an effective measles vaccination programme.

This outbreak happened largely due to another type of contagion originating on the other side of the Atlantic: the anti-vaccination movement. Dubbing it "The British Invasion", in his highly personal book *Vaccines Did Not Cause Rachel's Autism: My Journey as a Vaccine Scientist, Pediatrician, and Autism Dad*, Peter Hotez, director of the Texas Children's Hospital Center for Vaccine Development at Baylor College of Medicine, Houston, TX, USA, analyses the global spread of anti-vaccine activism. This movement was sparked by the former British doctor, Andrew Wakefield, and the publication in *The Lancet* and media coverage of his now-retracted 1998 article claiming a link between the MMR (measles-mumps-rubella) vaccine and autism. Hotez worked hard to debunk myths around childhood vaccines as a potential cause of autism and, here, gives a moving personal account of his own autistic daughter Rachel and his family's love and efforts towards her care.

In the *British Medical Journal*, British journalist Brian Deer has extensively exposed the fraud behind Wakefield's infamous paper and the *Washington Post* journalist Lena Sun has regularly covered Wakefield and the anti-vaccination movement in the USA. There are also several books that provide scientific evidence disproving an association between vaccines and autism, such as the journalist Seth Mnookin's *The Panic Virus* and three books from the American physician Paul Offit (*Deadly Choices: How the Anti-Vaccine Movement Threatens Us All*, *Vaccines and your Child*, and *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure*). Still anti-vaccination activists are proving influential, even to the point where US politicians, from Bill Clinton to Donald Trump, are apparently reluctant to discredit them.

At this juncture, Hotez' book stands tall not just because he has explained in great detail the humbling efforts of scientists like himself in developing vaccines

and immunisation schedules and their intellectual myth-busting efforts after the Wakefield's controversy. The reason why Hotez's book is special is that he has gone the extra mile to scientifically understand and tell the world in direct and simple words repeatedly that his daughter's autism has nothing to do with vaccines. "Even Rachel knows that", Hotez writes in his part-memoir, part-biography of Rachel as well as of the anti-vaccination movement.

At the time of reviewing the book, the anti-vaccine movement is gaining virulence globally more than ever, thanks to social media and the internet, which help to spread misinformation. For instance, I have often personally come across private WhatsApp groups and Facebook posts from quacks and traditionalists in India spreading misinformation of the same kind that the anti-vaxxers have been doing in Britain, continental Europe, or the US. Common myths are too many vaccines too early in childhood, the adverse events caused by the preservative thimerosal added to vaccine vials, measles is a mild disease, and, above all, a Western conspiracy pact between governments, pro-vaccine scientists, and pharmaceutical companies that produce vaccines for financial gains. Hotez painstakingly answers each of these concerns in great detail with scientific evidence and his own professional experience working as a pediatric vaccinologist aiming to develop vaccines for some of the debilitating diseases of the poor.

Hotez also writes vividly about what causes autism by illustrating his daughter Rachel's case in detail and the science behind various behavioural anomalies in people who manifest the autism spectrum disorder. Although the reader can clearly feel Hotez' passion as he explains his work or the science around vaccines and autism, it is also impossible to ignore his frustration that so much money, time, and energy go into creating or debunking bogus claims rather than for creating scientific knowledge or social systems to support individuals like Rachel or of families like Hotez' in caring for people with autism spectrum disorder. Hotez' book is not just a boohoo about his daughter or a rant about the notorious influence of the anti-vaccine movement. Those who follow Hotez' work know the high price he is paying for his advocacy. Forget the social media memes made about him, he often gets threat emails to the point where the trolls do not even leave his daughter Rachel alone. Most of all, Hotez shows how he, as a scientist working on vaccine development and a teacher, tries to inspire his students to be an example through interacting more with public and providing evidence-based information.

Vijay Shankar Balakrishnan