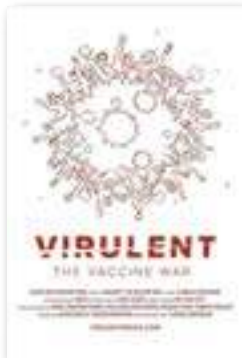


Medicine on the big and small screen:

Virulent: The Vaccine War



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Laura Davis, Producer
Tjardus Greidanus, Director
2022
1hr 20 min

Reviewed by Lucy Bruell

V*irulent* explores the history of vaccine hesitancy, laying out the decades old conflict between public health and individual rights in the fight to eradicate preventable childhood diseases. The documentary was in the final stages of production when the COVID-19 pandemic arrived, and thus only briefly addresses the fallout from resistance to the new vaccines.

The documentary's combatants are named before the title sequence appears on screen. Paul A. Offit, MD (AΩA, University of Maryland School of Medicine, 2018, Alumni), Director, Vaccine Education Center, and Professor of Pediatrics, Division of Infectious Diseases, Children's Hospital of Philadelphia warns that resistance to COVID-19 vaccination will spread to vaccination against other contagious illnesses including polio, measles, whooping cough, flu and other infections.

Offit is followed by Robert F. Kennedy, Jr., addressing the camera as he urges the filmmakers to "tell the truth," and challenges viewers to see whether the physicians in the film can defend themselves against the arguments of the vaccine-hesitant adherents. His interview predates his appointment as the Secretary of Health and Human Services, and he appears throughout the documentary as a strong proponent of the anti-vax movement.

The filmmakers highlight the vital importance of childhood vaccination by focusing on the campaign against polio in the late 1950s. Archival footage of children lining up for the vaccine is juxtaposed with children in the polio wards strapped to stretchers, alone and terrified. Paul Salk, son of Jonas Salk (AΩA, NYU

Grossman School of Medicine, 1937), recounts the successful introduction of the polio vaccine, lifting the fear of contracting polio and engendering widespread public support. Yet, the vaccine remains a victim of its own success. Polio has been effectively eliminated in the United States, and few parents today remember the polio wards of the 1950s or what it was like to live through an epidemic of childhood disease, a view shared by Art Caplan, founder of the Division of Medical Ethics at NYU, who contracted polio as a child just a few years before the vaccination became available.

Two groups

Offit breaks down vaccine-hesitant parents into two groups: parents who want more information about safety but who can be convinced by the science to vaccinate, and a smaller group of anti-vaxxers or conspiracy theorists, who believe that there are forces who want to do harm because vaccines are chemicals, not natural substances, and families should have the freedom to decide what's best for their children.

One of the most public controversies surrounding vaccine hesitancy was prompted by the now debunked work of Andrew Wakefield, who published a study in 1998 in *Lancet* (later retracted by *Lancet*) linking autism with vaccination. Conspiracy theories promoted by Kennedy, Jr. and others furthered fueled the debate. In the time since the documentary was filmed, the anti-vaccine movement has mushroomed, with disinformation and emotional appeals amplified by social media and mass media, drowning out the science. Antivax enablers, including celebrities, parents, and some physicians intent on seeding doubt about the safety of vaccines, attempt to shift the focus away from the science to parental rights, even comparing their efforts to the civil rights movement.

Several parents on both sides of the debate are featured in the documentary. Vaccine advocates include mothers who lost children to flu and meningitis. Ethan Lindenberger, a young man who wasn't immunized in childhood, not only decided to be vaccinated, he became a vaccine advocate. Some parents, initially skeptical, had

a change of heart when their child fell ill. One mother tells the story of her son Joey's death from Influenza, and her work to push for flu vaccinations in school-age children. Being touched by illness personally motivated a shift from anti- to pro-vaccination.

Kennedy claims in the film not to be anti-vaccine, calling it a pejorative term to characterize him and "the movement," and to silence their campaigns. However, archival footage effectively counters his claim, including a talk at the 2019 Health Vaccine Forum at Riverside Church in NYC, and at a protest against coronavirus restrictions held in Berlin in 2020 in which he attacks Bill Gates for promoting vaccines in Africa. Kennedy goes on to say (without evidence) that there are people in the National Institutes of Health and Centers for Disease Control and Prevention who are lying about the science and falsifying it. He accuses Offit of being a charlatan and a crook.

According to Caplan, anti-vaccination is primarily a white upper-class movement with promoters profiting from spreading fear and misinformation. They also seriously threaten those promoting vaccination, including attacking physicians through social media warfare. Del Bigree, producer of the anti-vaccination film *Vaxxed*, is among those who have monetized the movement for personal gain. Bob Sears, a pediatrician and author of *The Vaccine Book*, and one of the physician anti-vaxxers, spreads misinformation by stoking fear, telling parents not to disclose their child's vaccination status and promoting an alternate vaccination schedule.

The documentary also notes the sacrifice of those who participated in clinical trials, including children in the Salk vaccine placebo group who developed polio, and the subjects of the Tuskegee experiment who were not given the option of treatment for syphilis.

It's clear that much more attention to vaccine hesitancy is needed together with a concerted effort to counter the misinformation flooding the public. *Virulent* serves as a case study in how disinformation operates to wreak havoc on critical public health guidance, but it is only a primer. As the movement grows, scrutiny and pushback from the medical community is urgently needed.

Ms. Bruell is the Project Director of MedHum.org, a collection of reviews and articles that deal with medicine and the human condition. She is a film producer/director whose most recent documentary is *Oli Otya? Life and Loss in Rural Uganda*. Ms. Bruell's production company, L.A. Bruell, Inc., focuses on medicine and the arts. She is an Instructor in the Division of Medical Humanities at the NYU Grossman School of Medicine. Her E-mail address is lucy@labruell.com.