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WGBH Science Unit



One Guest Street
Boston, MA 02135

617.300.2000

www.pbs.org/nova

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AMID THE RETURN OF VACCINE-PREVENTABLE DISEASES, *NOVA*
EXAMINES THE SCIENCE OF IMMUNIZATION, TRACKS OUTBREAKS, AND
SHEDS LIGHT ON THE RISKS OF OPTING OUT

NOVA: VACCINES—CALLING THE SHOTS

Premieres Wednesday, September 10, 2014 at 9PM/8c on PBS

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[BOSTON, MA, July 17, 2014] – Measles. Mumps. Whooping cough. Diseases that were largely eradicated in the United States a generation ago are returning. Across America and around the globe, children are getting sick and dying from preventable diseases—in part, because some parents are choosing to skip their children’s shots. How and why do vaccines work? What are the biggest concerns and misconceptions, and what are the risks to the child and society when people decide to forego immunization? The award-winning science series NOVA helps viewers find the answers they need.

Misinformation about vaccines can spread quickly, creating confusion about the relative risks of vaccinating vs. not vaccinating. ***VACCINES—CALLING THE SHOTS*** is an important new film that encourages parents to ask questions and use the best available evidence to make decisions about how to protect their children.

This documentary travels the globe to provide the latest evidence and answers. Featuring scientists, pediatricians, psychologists, anthropologists, and parents wrestling with vaccine-related questions, the hour-long film explores the history and science behind vaccinations, tracks outbreaks, and sheds light on the risks of opting out. The film, produced for NOVA by Tangled Bank Studios in association with Genepool Productions, premieres Wednesday, September 10 at 9PM/8c on PBS (check local listings).

“Immunization plays a crucial role in our public health, yet there is a tremendous amount of apprehension and confusion around the topic,” said **Paula S. Apsell**, Senior Executive Producer for NOVA. “In ***VACCINES—CALLING THE SHOTS***, NOVA dispels the myths and examines the latest science, engaging parents and viewers in a conversation with real answers about the best way to protect their families.”

“With the return of measles, whooping cough and other highly infectious diseases, we saw an opportunity to team up with NOVA to provide clarity for viewers about vaccination and what’s really at stake here for all of us,” said **Michael Rosenfeld**, Executive Producer for Tangled Bank Studios.

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The vast majority of Americans—more than 90 percent—vaccinate their children, and most do it on the recommended schedule. Yet many people have questions about the safety of vaccines, and at least 10 percent of parents choose to delay or skip their children's shots. The film illustrates how vaccines not only protect individuals, but also safeguard entire communities. The higher the overall vaccination rate is, the more protection for everyone. For highly infectious diseases like measles, 95% of the community must be vaccinated to shield the larger population, a concept known as "herd immunity." If the rate drops below that 95% threshold, even by just a few percentage points, this layer of protection can collapse, sometimes leading to the kinds of outbreaks reported in recent news headlines. Measles was declared eliminated in the U.S. in 2000; however, the Centers for Disease Control and Prevention report 566 confirmed cases in 2014, as of July 11. In 2012, there were nearly 50,000 cases of pertussis, also known as whooping cough, and 20 deaths, in the U.S.

Highlighting real cases and placing them in historical context, **VACCINES—CALLING THE SHOTS** demonstrates just how fast diseases can spread—and how many people can fall sick—when a community's immunity barrier breaks down. The film chronicles a 2013 measles outbreak in Brooklyn, New York, in which 58 people fell ill, including two pregnant women. **Dr. Paul Offit**, a pediatrician and infectious disease expert at The Children's Hospital of Philadelphia, offers the physician's perspective on the vulnerable immune systems of young children, the history of vaccines, and how diseases re-emerge when immunization rates decrease.

Some parents—including a number of new mothers interviewed in San Francisco—are concerned about the risk of adverse reactions from vaccination. The film acknowledges that there are very rare risks, but **Dr. Brian Zikmund-Fisher**, a psychologist and risk specialist at the University of Michigan School of Public Health, puts those risks in perspective: You'd need about ten football stadiums, each with 100,000 people, to find a single serious allergic reaction to a vaccine.

NOVA viewers meet **Alison Singer**, President of the Autism Science Foundation, and her daughter Jodie, who has autism. Singer cites the overwhelming scientific evidence refuting a link between vaccines and autism and discusses the lingering effects of a long-discredited study on public perception. The film further explores autism with new science from **Dr. Dan Geschwind** that reveals its genetic causes. His team and others have pinpointed mutations that affect the wiring of the developing brain—compelling evidence that autism begins in the womb.

VACCINES—CALLING THE SHOTS also follows **Dr. Amy Middleman**, Adolescent Medicine Specialist at the University of Oklahoma's Health Sciences Center as she consults with patients and their parents on the safety and effectiveness of the controversial HPV vaccine, which protects against the cancer-causing human papillomavirus.

Vaccines are a key component of public health. As part of their effort to cover important issues in public health, NOVA and Tangled Bank Studios are also teaming up for a film about Alzheimer's disease, to be broadcast in the 2015 season.

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About NOVA

Now in its 41st season, [NOVA](#) is the most-watched prime time science series on American television, reaching an average of five million viewers weekly. The series remains committed to producing in-depth science programming in the form of hour-long (and occasionally longer) documentaries, from the latest breakthroughs in technology to the deepest mysteries of the natural world. NOVA airs Wednesdays at 9pm ET/PT on WGBH Boston and most PBS stations. The Director of the WGBH Science Unit and Senior Executive Producer of NOVA is Paula S. Apsell.

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About Tangled Bank Studios

Tangled Bank Studios is a production company established and funded by the Howard Hughes Medical Institute as an extension of its longstanding science education mission. Dedicated to the creation of original science documentaries for broadcast, theatrical and digital distribution, the company aims to produce programs that capture compelling stories of discovery across all branches of scientific inquiry. **VACCINES—CALLING THE SHOTS** is Tangled Bank Studios' second production, following the critically acclaimed three-part series *Your Inner Fish*, which aired on PBS in April 2014. More information about Tangled Bank Studios is available at www.tangledbankstudios.org, or by following [Tangled Bank Studios on Twitter](#).

About PBS

[PBS](#), with its over 350 member stations, offers all Americans the opportunity to explore new ideas and new worlds through television and online content. Each month, PBS reaches nearly 120 million people through television and nearly 28 million people online, inviting them to experience the worlds of science, history, nature and public affairs; to hear diverse viewpoints; and to take front row seats to world-class drama and performances. PBS' broad array of programs has been consistently honored by the industry's most coveted award competitions. Teachers of children from pre-K through 12th grade turn to PBS for digital content and services that help bring classroom lessons to life. PBS' premier children's TV programming and its website, pbskids.org, are parents' and teachers' most trusted partners in inspiring and nurturing curiosity and love of learning in children. More information about PBS is available at www.pbs.org, one of the leading dot-org websites on the Internet, or by following [PBS on Twitter](#), [Facebook](#) or through our [apps for mobile devices](#). Specific program information and updates for press are available at pbs.org/pressroom or by following [PBS Pressroom on Twitter](#).

PRODUCTION CREDITS

Written, Directed and Produced by Sonya Pemberton
Executive Producers Michael Rosenfeld and Sonya Pemberton
NOVA Senior Executive Producer Paula S. Apsell

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Pressroom:

pbs.org/pressroom

PR Contacts:

For NOVA:
Eileen Campion
Roslan & Campion Public Relations
212.966.4600
eileen@rc-pr.com

For Tangled Bank Studios:
Anne Zeiser
Azure Media
781.342.5142
azeiser@azuremedia.org

Jennifer Welsh
NOVA/WGBH
617.300.4382
jennifer_welsh@wgbh.org

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