VACCINE FEARS
OVERTURNED
BY FACTS



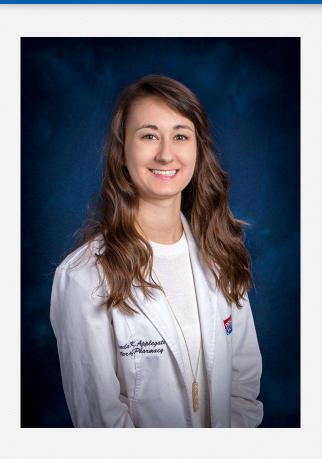
Wednesday, March 22 11:30 AM-12:30 PM







### Amanda Applegate



Amanda Applegate, PharmD, BCACP, Director of Practice Development at Kansas Pharmacists Association

Immunize Kansas Coalition Chair-Elect and Board Member

### Immunize Kansas Coalition (IKC)

Mission: Protect all Kansans from vaccine-preventable diseases



### Members

- Physicians Nurses Provider Associations Pharmacists Managed Care
   Parents Epidemiologists Educators School Nurses Universities
- Health Departments
   Grandparents
   Cancer Organizations
   Researchers
- ◆ Extension Professionals ◆ Hospitals ◆ Child Advocacy Groups ◆ Early Childhood



More than 45 member organizations, over 100 engaged individuals, and 200+ people on the distribution list



**Heather Simpson** 



**Lydia Greene** 



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### Who I Was as an Anti-Vaxxer



### 1,082,535 cases of measles in 2014.

This is an epidemic which needs to be addressed...

Oh wait.. did I say measles?

#### I meant autism.

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I meant autism.

Polio was not eradicated by vaccines.

It was eradicated because it was renamed to something else.



### What Not to Do: My Story

- The evil smart sock that saved my daughter
- Worshiping the FDA against all logic
- "No, she really does have strep"
- It's ok to admit there are some side effects



### Trope #1: Aluminum & the Blood Brain Barrier

- The studies anti-vaxxers cite are referring to environment aluminum, not vaccine aluminum
- Chemicals can only cross the BBB if they are fat soluble and are small enough to do so. Vaccine aluminum is neither.
- Aluminum can cross the BBB if it's broken down by gut acid, hence the environmental aluminum found in the brain (that anti-vaxxers see in studies)
- Anti-vaxxers will cite hair aluminum, but it is always environmental.

### Trope #2: Polysorbate 80 and the BBB

- Around 40 years ago, a study (Spigelman et al, J Neurosurg 1984) suggested that if you give enough polysorbate 80 (PS80) injected right at the base of the neck (carotid artery), you could open the blood-brain barrier (BBB) for things like cancer treatment.
- But according to the study, the PS80 treated group only showed a statistical significance versus saline when injected with 60,000mcg/kg.
- To compare, the hepatitis B vaccine for newborns has 50mcg, which means we would need around 3,600 Hep B vaccines injected straight into their carotid to even have a chance of opening up the BBB.

### Top Do's and Don'ts When Engaging with Vaccine Hesitant Parents

- Be available by cell for the days following their vaccinations.
- Allow a slow schedule if the patient is threatening to leave your practice over the normal schedule.
- Try to answer every parent's fear with kindness, gentleness and understanding. They pick up on tone.
- Gently break down the exact reasons their fears scientifically CANNOT happen.
- Learn everything there is to know about vaccines, because that's what they are trying to do as well.

# VACCINES FEARS OVERTURNED BY FACTS

Mothers vs. Tropes Lydia Greene

### 15 YEARS AGO, I STOPPED VACCINATING MY DAUGHTER.

Due to a miscommunication with public health I turned to an online community for answers.

They helped me before, so when they gave me answers about my daughter's reaction, I was scared, and I believed them.

At first, I was just hesitant, but then I went fully anti-vaccine for all of my family.

Fear and anxiety is the biggest motivator when it comes to avoiding vaccinations.

# I WENT ON TO HAVE 2 MORE CHILDREN, AND I DIDN'T VACCINATE THEM EITHER.

- I questioned my choice over the years, but always fell back to inaction.
- I was stuck in an echo chamber.
- I realized I was trapped in a triple filter bubble. (Geshke 2018)
  - 1. My individual bias
  - 2. My social groups
  - 3. My technological algorithms



MountainMama GC Registered 🕶

Joined Jun 23, 2008 3.541 Posts and had trouble nursing for a couple days. She just wasnt herself in that time. She recovered but it scared me. At 4 months she only had prevnar and Men-C. She didnt have any reaction to those but I was too nervous to continue.

We travel, my daughter loves it. We have done some all inclusives, but I would like to take her to some more adventurous places. We also hike and camp. So I am thinking of a few vaccines. I am on the fence on MMR, but I also want her to get it before puberty if I do get it for her. I am thinking of getting her IPV, and Td, and Hep A.

The other travel vaccines will be as needed prior to travel as some dont last very long.

Does this make sense? Also, how do you know how many boosters are needed when starting so late?

### MY INDIVIDUAL BIAS

- I have a chronic autoimmune disease.
- I felt I was pressured into a C-Section without the evidence-based information.
- I have had some negative experiences in healthcare and I have PTSD from them.
- I lacked support as a mother both in my personal life, and by healthcare. I had poor breastfeeding support.

### MY SOCIAL GROUPS

It all started with forums. Mothering.com was the first online community I was on. It was a natural and attachment parenting forum.

Then other social media platforms gained popularity. Every facet of parenting had a niche group: breastfeeding, sleep training, cloth diapering, intactivism, vaccinations, etc. Groups on Facebook became extremely popular with new mothers.

In my real life I had feelers in the form of questions. I would ask prospective mom friends questions like, "Do you use any natural remedies?" to see if we could further discuss being anti-vaccine.

### TECHNOLOGICAL ALGORITHMS

Does it seem like everyone agrees with you?

Its because the algorithms know what you interact with.

They then will bring you more content you interact with.

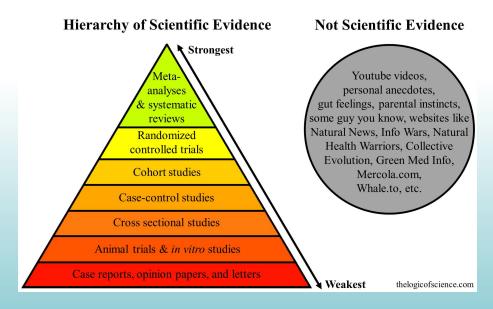
It's a cycle.

It can seem like the whole world thinks vaccines are bad when in reality it's just a few spread out people who can congregate in large groups online.

Some people refer to this as "The Loud Minority".

### HOW I GOT OUT OF MY FILTER BUBBLE

- COVID drove me to seek answers about vaccination, as I was unsure of what the state of healthcare would be.
- I was looking into a trope I whole heartedly believed. It wa
- s about the blood-brain barrier and the age it fully forms. I thought it was age 2 or 3. When I actually looked for scientific data, the only data I could find was that babies are born with a mature BBB.
- Realizing I was wrong enabled me to look at other beliefs I could be wrong about.
- I spent weeks and weeks looking into the tropes
   I believed and forced myself to look outside my
   echo chamber for information.
- I started using this as a tool to evaluate information.



### FEAR PUSHED ME IN. FACTS PUSHED ME OUT.

Heather and I both realized that it was the indisputable facts that allowed us to vaccinate with confidence.

There is ZERO evidence that the BBB forms at age 2 or 3. How did I get to believe it?

What if we are able to explain these tropes to parents BEFORE they take on this belief system?

The booklet "Vaccine Fears Overturned by Facts" is born.

We looked at the tropes that scared us and explore how we were mislead about them.

I will share my 2 favourites, but there are more in the booklet!

### VACCINES DO NOT CAUSE AUTISM.

This is the trope that will not die.

There is a sibling study with 600K children, and a completely unvaccinated group of a few thousand children. (HVIID 2019)

They compared autism rates of vaccinated children with their unvaccinated siblings and there was no difference in autism rates.

This evidence supports my experience.

My first son has level 2 ASD. He wasn't vaccinated until he was almost 5. He "regressed" at age 2.5-3 years old. He had a different developmental arc from his baby brother. His baby brother was vaccinated at the age of 2. He did not regress and is not autistic. This is what that study showed.

#### VACCINES DO NOT CAUSE SIDS

Correlation is not causation. Babies get vaccinated multiple times during infancy and so sometimes SIDS can coincide with vaccinations.

The data does not show an increase around vaccinations. It appears random.

Sweden stopped vaccinating infants for DTP in the 1980s. There was no decrease in SIDS, and more babies died of pertussis as a result.

There is data that shows that vaccines may have a protective effect, as the rates of SIDS are lower in vaccinated children. This may just be a healthy user effect as parents who vaccinate are in contact with healthcare workers more, and know more about safe sleep practices.

ABCs are the best way to reduce SIDS. Alone. Back. Crib.

### WHAT HELPED ME VACCINATE WITH CONFIDENCE?

Vaxopedia. Dismantles each trope.

Reading other former antivax stories.

Having a nurse work with me. "You do what you want each visit, I will keep track of what is left."

Seeing with my own eyes, my kids were ok. I went from slow to accelerated just by seeing my kids were fine.



#### WHAT CAN HEALTH CARE PROVIDERS DO?

#### Listen

• Listen. I know it's easy to try to downplay fears in an effort to stomp them out. It doesn't work. Never look angry or annoyed. This shuts the conversation down immediately.

#### Ask

- Ask them to bring you their biggest fear so you can go over it together. Empathize. "Wow that is really scary. I'm glad you're telling me this." "Let me look into that, we will talk about it next time." Just do one fear at a time, as Gish gallop is an antivax defense mechanism.
- (My doctor told me to google my daughter's medication, and report back all the scary stuff to her, WOW)

#### Be Patient and Available

 Be patient. You're not going to extinguish their fears in one visit, and you want them to come back to YOU. Maybe they just do one vaccine. Can they call the office if they are scared? Especially the first vaccine, you want to be there if they have any questions. Set up an email account, specifically for their antivax questions, so all your patients can ask you a question anytime they want. You can answer at your leisure.

## Q & A

# VACCINE FEARS OVERTURNED BY FACTS

for Parents & Families
Wednesday, March 29
11:30 AM-12:30 PM







View the Vaccine Fears

Overturned by Facts Booklet

on IKC's website:

www.immunizekansascoalition.org/vfof





#### Thanks for joining!

Visit **immunizekansascoalition.org** for more vaccine resources and information.

