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WordSmith

Once upon a time, there was a virus.

We're not sure where it came from, but it immediately set about to do what viruses do: survive. And it kept on surviving. Until one day, the people figured out how to fight back.

The goal of a virus is to survive. It achieves this goal by following three steps: (1) infect a host, (2) get the host to create new viruses, and (3) spread those viruses as far and as wide as possible. A vaccine is a way to stop each of those steps from having the effect the virus wants. When people are vaccinated, their immune system sees the vaccine as "not me," and mounts a response. It saves those instructions on destroying the virus *just in case* the virus comes back. When a virus comes up against a vaccinated host, the infection might not happen at all, or at most, the host may experience a weaker version of the disease.



But, as with most stories, there was a twist: variants began to appear.

Every time something – be it a person, a virus, a plant, whatever – reproduces, there is a chance for mutations to happen. Some slight tweak to a genetic code, a flower that was red becomes purple, or a child is born with freckles to non-freckled parents. Some of these changes are good, and will be passed down to the offspring's future offspring. And some are not compatible with life, and the mutation will die off. The problem with viruses is that, while a human's reproductive cycle is once every nine months or so, a virus can reproduce in hours. And every time it reproduces, there's a chance of a mutation. And now there are at least three mutations that are helping the virus to survive longer in the face of a host population that wants it gone.

So, what did the people do about this virus that refused to quit? The same things they did since the virus appeared: stayed at least six feet away from people not in their immediate households; wore masks; washed their hands. And new to the list, but just as important: they got vaccinated when it was their turn.

The faster everyone gets vaccinated, the faster the virus gets stopped in its tracks. The mRNA vaccines from Pfizer and Moderna are very effective against the virus: those vaccinated have a significantly decreased risk of serious symptoms and hospital stays. The AstraZeneca and Johnson & Johnson vaccines appear to do the same thing (lower the risk of serious illness and death) by using a different type of vaccine (vector-based, instead of mRNA based). All of these vaccines will provide a high degree of protection from the virus.

The faster the virus gets stopped, the faster it stops reproducing. The less the virus can reproduce, the less likely it is mutations will happen, and the virus will be stopped.

So how will the story end? That remains to be seen, but personally I'm hoping for something like:

It took what seemed like forever, but the people followed the advice of their health care providers, scientists, experts and community leaders. And one day, the virus couldn't infect anyone else; the people had all been vaccinated. And the last virus, unable to reproduce, died alone. And the people rejoiced, and thanked their essential workers, and the scientists made sure that the next virus that tried this type of thing wouldn't get far.

The End.

The *Khan*versation



We enter a brand new season; not that of a true spring (not with temperatures below freezing and snow falling outside!) but one of a turning point in COVID-19 epidemiology. I mean vaccination and all that entails.

Winter has not just brought us opportunities for outdoor activities (like my favorite ones: cross-country skiing and driving through fresh snow - preferably not simultaneously); it also brings discussions of who makes this vaccine, what efficacy does it have, what populations should be Tier 1A and 1B. While academics may consider these questions settled, they continue, in the clinic and in the community.

These questions leave some of us bemused, and I think they are also cause for cautious celebration. Patients wanting to discuss epidemiology, immunology, health behavior and community engagement? Perhaps they aren't just public health textbook titles anymore. They are living concepts to be translated to real-life situations.

We have challenges. A minority of minorities are vaccinated. A disease which robs some people of taste and is itself color-blind is threatening to disproportionately affect communities of color. At the root of inequity, there is mistrust. It is a double-edged sword for public health: does one focus on high-risk communities? And if so, how does one avoid the perception of 'targeting?' Does one adopt a general approach? If so, how does one avoid the accusation of not developing strategies for higher-risk groups?

Each setting is different and the answers are unique to each circumstance. From our setting in Delaware medicine and public health, we can say for sure we will not succeed without partnerships. The kind of partnerships built on trust and reinforced by sound process: whereby tiers 1A and 1B are conducted according to plan, by those best qualified to do so. By systematic, community-engaged approaches for *all* tiers to educate about vaccination and eliminate the actual 'fake news' circulating out there (see here for some common myths: <https://www.henryford.com/blog/2020/12/vaccine-myths>).

The NIH-funded Delaware Clinical & Translational Research Program is hosting its annual conference in a few days; it is free to register and we will discuss COVID-19 and vaccine hesitancy as the main themes. Sign up here: <https://www.de-ctr.org/save-the-date-virtual-community-research-exchange/>

Certain things are never cliché, and we should not assume our patients and communities know the obvious. Current COVID-19 vaccines utilize newer technology, but they are not a new concept. So, repeat the obvious: Vaccination is a necessary preventive measure. We know enough to know it's safe. Get it when it's your turn. I did; shot 2 was as benign as shot 1 for me, in case you were wondering. Yes, I know some people had a rough patch of a day or two; those same colleagues reminded me that it meant their immune system was working well and - importantly - one day of reaction sure beats last rites in the ICU.



I would love for my colleagues and community to make vaccination our favorite winter sport. I can't promise it will displace road rallying or skiing for me, but it will be a close race.

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COVID-19 Vaccination

Phase 1B

Delaware is currently in Phase 1B of its
[Coronavirus Vaccine Release Timeline](#). Phase

1B includes individuals aged 65 years and older, and frontline essential workers (i.e. firefighters, emergency medical services, police).

Both before and after receiving the vaccine, you should continue to wear a mask, maintain distancing, and wash your hands frequently!

Check out [Delaware's Vaccine Information Page](#) to register for an appointment!



The following op-ed was published last month in the Cape Gazette. We have received permission from the authors to re-post it here.

DON'T BE AFRAID

According to statistics published by the Delaware Division of Services for Aging and Adults with Disabilities 80,613 seniors 65 years of age and older lived in Sussex County in 2015. The division projected that the county's elderly residents would increase to 100,103 by 2020. Given the ailments that accompany aging, many of these individuals are receiving medical treatment and care from a doctor.

In this day of misinformation, it is important to remember that the care physicians provide is based on science. And, even though science may not produce a complete recovery, we all know that modern medicine allows seniors with chronic illnesses to work, volunteer on behalf of others, attend church, and enjoy a good quality of life.

For many in our community, this confidence is grounded on the belief in the healing power of their faith. Many seniors accept medical intervention with unwavering belief that faith in a supreme power will not only provide the strength to fight for life but, in addition, will enable the doctor to use the gifts of scientific knowledge and medical technology to treat others.

So, to those in our community worried about the new COVID-19 vaccines, we would say, "Don't be afraid." Just as you have accepted and have been helped by vaccines for the flu, shingles, pneumonia, measles and mumps, let yourself similarly benefit from the COVID-19 vaccine. Please think before flatly saying no to getting vaccinated. Talk with your doctor, or other trained healthcare providers about what you have heard that may be wrong. Get the true facts about the vaccine and scientific answers to your concerns about the risks versus the benefits of being inoculated for you, your family and your community.

Southern Delaware Alliance for Racial Justice

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Delaware Journal of Public Health

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Public Health - One Health

What is One Health? One Health is an approach that recognizes that the health of people is closely connected to the health of animals and our shared environment.

One Health is not new, but it has become more important in recent years. This is because many factors have changed interactions between people, animals,

PUBLIC HEALTH–ONE HEALTH



plants, and our environment.

Past issues of the Journal have touched on aspects linked to One Health, including Climate and Health, Nutrition, Creating Healthy Communities, Cancer, and Communicable Disease.

For this issue, we engaged Karen Lopez, DVM, MPH, Delaware's Deputy State Veterinarian as our guest editor, and we thank her for her connections and hard work that led to this issue's culmination.

Read the issue [here](#)

Editor-in-Chief: Omar Khan, MD, MPH
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Academy Updates

Oral History Project



The Academy/DPHA's Oral History Project includes experts from interviews with Delaware Physicians, dentists, and nurses, who are either retired or coming to the ends of their careers.

Our interviewees discuss their career experiences, and provide perspective about how the past compares to the present, and what they feel the future may hold.

We recently completed four Oral History videos: [Dr. Virginia Collier](#), [Dr. Javed M. Gilani](#), [Dr. Anand Panwalker](#), and [Dr. Ehsanur Rahman](#).

Check out the entire [Oral History Project](#) at our [YouTube Channel](#)!

National News

National Public Health Week

Building Bridges to Better Health

We may be physically distant from each other, but now it's more important than ever to come together. That's why the 2021 theme is "Building Bridges to Better Health."

Making communities safe and healthy is public health's top priority. COVID-19 has made that even more important. Even though we won't gather in person, social media and



**NATIONAL
PUBLIC
HEALTH
WEEK**

virtual platforms make it easier than ever for us to connect, create and take action.

NPHW 2021 will take place completely virtually **April 5-11, 2021**. We know that by building connections, we make our communities healthier, safer and better for all.

[Get Involved!](#)

February is...

African American History Month
American Heart Month
National Cancer Prevention Month

[And Much More!](#)

Additional Resources

Delaware Division of Public Health: [The DPH Bulletin](#)

Trust for America's Health: Wellness and Prevention Digest - [Subscribe](#)

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