



PARENTS PACK

MONTHLY UPDATES ABOUT
VACCINES ACROSS THE LIFESPAN

FEATURE ARTICLE — PARENTS PACK 2024: THE YEAR IN REVIEW

December 2024

Thank you for continuing the journey of navigating vaccine-related information, news and changes with us throughout the last year. As we get ready to ring in 2025, we wanted to take a moment to look back over some of what we learned about and experienced together during the last year. See how well you do by answering these questions about information shared in the *Parents PACK* newsletter during 2024.

Question 1: Which of these demonstrates an error in logical reasoning called a “causal fallacy?”

- A. A rise in the number of senior citizens led to an increase in the popularity of pickleball.
- B. Fewer teens are going to college because fewer are getting driver’s licenses.
- C. More vaccinations in childhood have led to increases in video game playing.
- D. More vaccinations have led to increases in chronic diseases.
- E. A and B
- F. C and D
- G. All of these

The answer is G. All of these. Causal fallacies occur when people assume two things that happen at or near the same time are causally related. The May 2024 *Parents PACK* feature article, “Do Vaccines Cause Chronic Diseases?,” focused on how we know vaccines do not cause chronic diseases, describing how the immune system works and how the body processes and responds to vaccines.

Question 2: Are mRNA vaccines a type of gene therapy?

This question was the title of the April 2024 *Parents PACK* feature article. The short answer to the question is no; however, the article went into additional details. Using the example of different goals of running (e.g., running for health versus running to resolve a situation), the article outlined differences between using mRNA in vaccination and gene therapy.

More recently, *The Hilleman Chronicle*, our newsletter for science and history enthusiasts, took a more detailed look at some of the promise of mRNA technology, highlighting three potential applications beyond vaccines.

Question 3: Which of the following can be used to make vaccine ingredient information seem scarier in online posts?

- A. Black backgrounds with harsh fonts
- B. Images of syringes
- C. Chemical names
- D. Lack of context
- E. All of these

The answer is E. All of these. In the October 2024 *Parents PACK* feature article, “What’s in Vaccines and Why?,” the Vaccine Education Center team shared several resources related to vaccine ingredients, including new tables listing the ingredients in routinely recommended vaccines and their role in the vaccine production process.

The article also highlighted several resources related to evaluating information, so people can more easily assess the legitimacy of information they are seeing online.

Question 4: How many people died from COVID-19 per hour in the U.S. between October 2023 and mid-May 2024?

While COVID-19 death rates have decreased since the start of the pandemic, COVID-19 continues to be deadly. In the June 2024 *Parents PACK* feature article, “Empty Chairs at Dinner Tables,” it was revealed that eight people per hour died from COVID-19 during the 7 1/2-month period between fall 2023 and spring 2024. The article also described death rates from other respiratory infections, like influenza and RSV.

Question 5: What are tertiary cases during an outbreak?

During an infectious disease outbreak, the first person (or group of people) to become ill is the index case, or patient zero. Individuals who get infected after exposure to the index case are called secondary cases. If secondary cases infect additional people, the newly infected individuals are tertiary cases, and so on until the outbreak is contained.

In the January 2024 *Parents PACK* feature article, “Deadly Decisions?,” we described an outbreak of measles in Philadelphia. During the outbreak, one of the secondary cases did not follow quarantine procedures directed by public health officials, causing the outbreak to grow to include tertiary cases.

The article also discussed how individual choices about infectious diseases can affect others in the community differently than individual choices related to other public health issues.

TRIVIA CORNER

What famous philanthropist said vaccines are “a miracle,” and that “with just a few doses, they can prevent deadly diseases for a lifetime.”?

- A. Oprah Winfrey
- B. Bill Gates
- C. Warren Buffett
- D. George Clooney

Question 6: What is the difference between a primary and a secondary source of scientific information?

As described in the November 2024 *Parents PACK* feature article, “Going to the Source: Finding Out More About a Message That Includes Science,” a primary source is the original publication of a scientific observation, whereas secondary sources are publications that describe what is known from studies. Scientific journals are primary sources, whereas media reports, websites and textbooks are examples of secondary sources.

The article described how scientists decide where to publish, how to evaluate the quality of scientific journals, and how primary sources can be used as tools of deception.

How did you do?

As these questions demonstrate, we covered A LOT of information during 2024, and you aren’t alone if you did not remember all the answers. But, we hope you remembered some of the articles, took the opportunity to go back and check others you might have missed, and appreciated a few that you recalled finding useful or timely throughout the year.

Two notes of gratitude and one request

As 2024 comes to an end, we have two notes of gratitude and one request:

- Thank you for your continued support of and participation in our *Parents PACK* community.
- Thank you for your ongoing inquisitiveness and efforts to find (and share) accurate vaccine-related information.
- Please consider sharing the *Parents PACK* with at least one other person who might find it useful. We want to continue growing the *Parents PACK* community because together we are stronger and better able to address inaccurate information and ill-founded or poorly reasoned assumptions.

We look forward to again traveling together through the vaccine-information universe in 2025! Enjoy the remaining days of 2024 with your family and friends.

For links to resources in this article, please visit bit.ly/dec2024FA.

NEWS & NOTES

Essay contest for students in grades 6-12

The 2025 Maurice R. Hilleman Essay Contest is open! Students in grades 6 through 12 in the U.S. and Canada can submit essays related to this year’s writing prompt by Feb. 6, 2025, to compete for cash prizes and the opportunity to participate in the virtual celebratory event in the spring of 2025.

New for 2025, our Vaccine Makers Project team (VMP) has developed resources to help students submit their best essay, including a new “Tip Talk” video, contest checklist, and a compilation of writing tools and resources from a variety of sources.

Find out more or share the contest with the students in your life today.

New YouTube channel and video series

The Vaccine Education Center (VEC) has a new YouTube channel [youtube.com/@VaccineEducationCenter] where you can find our latest videos, a series of playlists related to specific topics, and other recommended YouTube channels.

Check out the channel and subscribe today, so you are among the first to know when new videos become available!

Thinking about critical thinking

Miss Trust is a publication on Substack that “investigates health and social issues through a critical thinking lens.” With articles focused on the process of critical thinking, individual infectious diseases, and a nursing student’s experience in “Tales from the Bedpan,” you’re likely to find something of interest. Check it out or join the conversation.

When politicization of science results in lack of access to healthcare resources

Science denialism, the rejection of evidence-based information and understanding, has been festering for several years, and the trauma of COVID-19 pandemic restrictions and experiences fostered the tendency to dismiss scientific findings in favor of unsubstantiated claims among even more people.

The results of this denial can be demonstrated in various ways related to the pandemic:

- During the pandemic, we saw people advocating the use of unsubstantiated “treat-ments,” like ivermectin, which were proven not to work and could be dangerous, yet some people continued to eschew the science and seek unfounded treatments.
- According to a survey of about 1,500 U.S. adults in the spring of 2023 (Econo-mist/YouGov), about two-thirds of respondents believed that SARS-CoV-2, the virus that causes COVID-19, originated from a lab leak, despite scientific evidence to the contrary. (For more on this, see Dr. Offit’s presentation, “Preventing the Next Pandemic: Why It Is Important to Know the Origin of SARS-CoV-2.”)

Unfortunately, this denialism has also extended to the safety and efficacy of COVID-19 vaccines, with officials in Texas banned from promoting the vaccine and the surgeon general of Florida recommending against its use in that state. Recently, this denialism took an even darker turn when public health officials who oversee six counties in Idaho were barred from offering the COVID-19 vaccine based on votes by a board of elected officials. While the vaccine remains available from other entities in the state, some of those who most often rely on health department programs and clinics in the affected counties are likely to find themselves without other options.

For links to resources, please visit bit.ly/dec2024NN.

DR. HANDY’S CORNER: WHY DO WE SEE MEASLES OUTBREAKS?

In this video, Dr. Handy discusses why measles outbreaks occur and what can be done to prevent them, bit.ly/measles-outbreaks.

TRIVIA ANSWER

The correct answer is B. Bill Gates, founder of Microsoft, is a known vaccine advocate and founder of End Polio Now, an initiative working towards global polio eradication.

Go to vaccine.chop.edu/trivia to play Just the Vax, the Vaccine Education Center’s trivia game, where you can find this question and others like it.

