EpiMonitor
Epidemiology for Epidemiologists

A monthly update covering people, events, research, and key developments

Editor's Note:

This month we are presenting two articles on Artificial Intelligence because of the interest it generated throughout the community. One is a response to a reprint article on ChatGPT last month, and the other discusses the tension between Generative Artificial Intelligence and climate science. Finally, we feature a Your Local Epidemiologist reprint addressing the top six questions about fall vaccines.

We continue to provide you with our popular monthly crossword feature, Notes on People, an overview of what we read from the public media, and a listing of upcoming epidemiology events. Finally, as we move into Fall hiring season, don't miss the Job Bank offerings this month. We have some fantastic opportunities advertised both here and on our website. Do you have a job opening to advertise? Contact us to see our variety of advertising options and pricing.

Did you miss last month's issue? ***Read it here:*** https://tinyurl.com/2vvn6r9m ***or here:*** https://tinyurl.com/5n6duwru

In This Issue

CSTE

SCHOOL OF PUBLIC HEALTH
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UNIVERSITY OF MICHIGAN

The Collision of Climate Science and Generative Artificial Intelligence

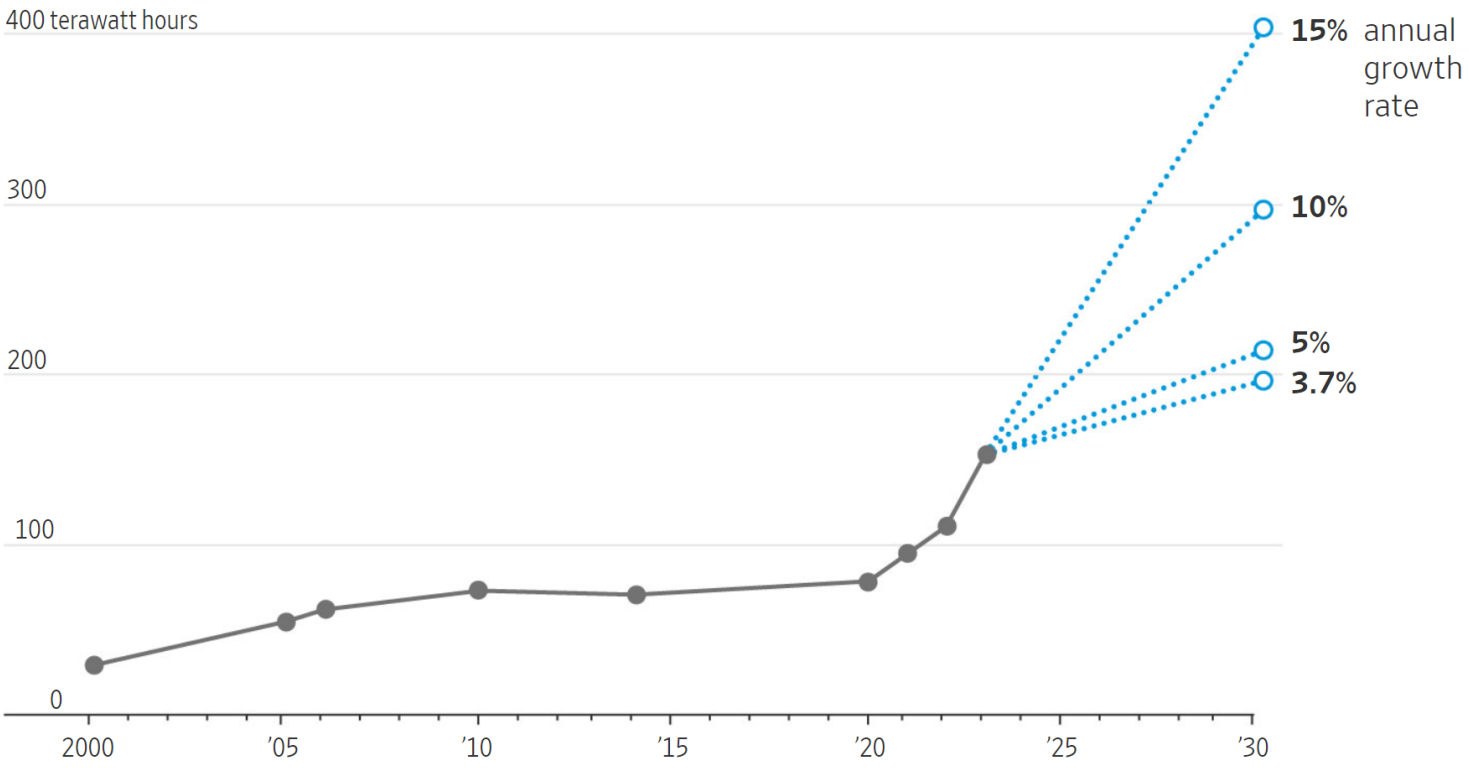
Author: Madeline Roberts, PhD, MPH

Generative AI has grown and achieved widespread use in an unregulated industry where companies and developers are not required to report resource utilization or environmental impact. The increasing use of generative AI technologies, which require substantial computational power, is also producing ballooning emissions.

The health impacts of air pollution and climate change are substantial and include cardiovascular and respiratory diseases such as asthma, changes in the distribution of disease vectors and related illnesses, and heat-related illness, among others. Additionally, the deleterious health effects of emissions are not distributed equally, with low-income areas bearing a greater burden of harm compared with more affluent areas.

AI data centers are also consuming massive amounts of resources. In one example—after being legally compelled to report how much water it was using in The Dalles, Oregon—Google disclosed that its data centers were using almost 25% of all available water in the city. Google is struggling to realize its goal of net-zero emissions by 2030 and disclosed in July that company emissions rose by 48% compared to their 2019 baseline, mostly attributable to AI initiatives and data centers. Aiming to replenish 120% of the water it consumes by 2030, the company has currently replenished 18%. Google is not alone, Meta's emissions are approximately 70% over their 2019 levels, and Microsoft reported emissions growth 29% over its 2020 baseline.

Electricity consumption by U.S. data centers, with projections Source: https://tinyurl.com/4k35uvym



- Climate cont'd on page 3

- Climate cont'd from page 2

As the environmental cost of developing and maintaining such massive data infrastructure comes under sharper review, tech giants are collaborating with power producers to secure novel sources of clean energy, including harnessing heat below the earth's surface and small nuclear reactors.

Researchers have developed different methods for measuring and communicating the environmental impact of AI. A preprint by Lacoste et al presents an environmental Impact Calculator for Machine Learning (interactive calculator here) where companies and developers can estimate their carbon emissions. Crawford and Joler published their stunning diagram and narrative Anatomy of an AI System (currently on exhibit at the Museum of Modern Art) which details the cost of AI in terms of material resources, human labor, and data, spanning the inception of a device to when it becomes e-waste.

The AI model training and inference phases exact different environmental demands, and while shorter in duration, the training phase is often the most environmentally taxing owing to the multitude of servers and graphics processing units (GPUs) required to train a model. The environmental impact of the inference phase is directly proportional to the model's number of users, with more users yielding a higher environmental impact.

For reference, generative AI searches use approximately 10 times more energy compared to standard searches using a search engine like Google. To understand just how much water and electricity data centers require, researchers at UC Irvine developed the infographics shown on the next page.

There is indication that time of day as well as location can substantively reduce the amount of water used in AI data centers. Additionally, some have suggested regulatory legislation establishing energy and water benchmarks for tech companies, as well as incentivizing renewable energy use. At the very least, transparency in this area could look like implementing standardized, third-party environmental impact studies with routinely reported results. Currently, The Artificial Intelligence Environmental Impacts Act of 2024 calls for measurement and reporting standards for the environmental impact of AI, though developers reporting the results would be voluntary. It also would require an interagency study to quantify the positive and negative ecological impacts of AI. The bill's fate in Congress can be tracked here.

The environmental burden and health implications of AI energy consumption continue to increase along with unreached climate targets. A concerted effort from tech companies, clean energy power producers, researchers, and policymakers is urgently needed to move toward sustainable AI.

- Climate cont'd on page 4

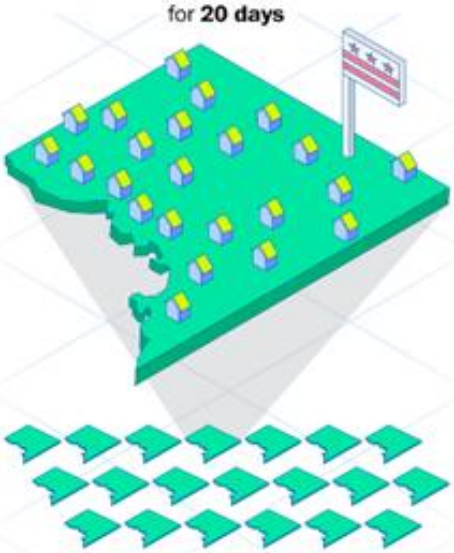
- Childhood cont'd from page 2

A 100-word email generated by an AI chatbot using GPT-4

Once requires **0.14 kilowatt-hours (kWh)** of electricity, equal to powering **14 LED light bulbs** for **1 hour**

Once weekly for a year requires **7.5kWh**, equal to the electricity consumed by **9.3 D.C. households** for **1 hour**

Once weekly for a year by 1 out of 10 working Americans requires **121,517 megawatt-hours (MWH)**, equal to the electricity consumed by **all D.C. households** for **20 days**

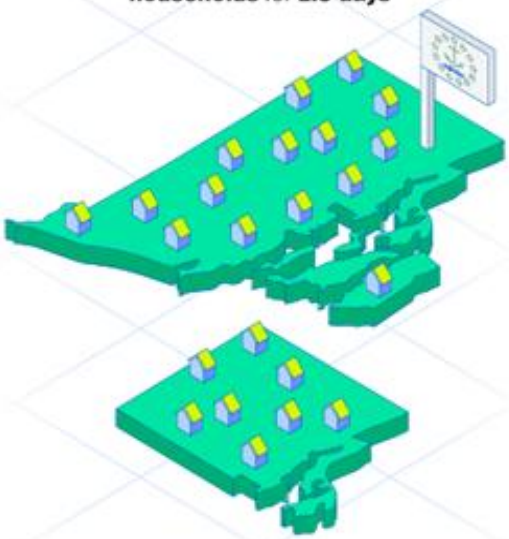


A 100-word email generated by an AI chatbot using GPT-4

Once requires **519 milliliters** of water, a little more than **1 bottle**

Once weekly for a year requires **27 liters**, about **1.43 water cooler jugs**

Once weekly for a year by 1 out of 10 working Americans (roughly 16 million people) requires **435,235,476 liters**, equal to the water consumed by **all Rhode Island households** for **1.5 days**



Infographics here: https://tinyurl.com/3uhjuz7j

Answered: Top 6 Questions About Fall Vaccines

Author: Katelyn Jetelina, PhD, MPH

We received many follow-up questions after the last YLE email about options for fall vaccines. Here are the answers to your top questions!

The bottom line is: Get your fall vaccines—it will cut your risk of diseases by half.

Let's dig in.

1. How long after a Covid-19 infection/vaccination should I wait?

We have frustratingly scarce scientific guidance on timing. What we do have tells us this:

- ***Minimum wait: 2-3 months***. A Covid-19 vaccine doesn't add much benefit within 2-3 months of infection. We don't *have* to wait 2-3 months after infection—we won't "exhaust" or "overwhelm" our immune system. But waiting will reinforce our B cells (our antibody factory that stores some long-term memory).

  Maximum wait: 8-12 months. The longer we wait, the more we get out of the vaccine. One study found that waiting 8 months increased neutralizing antibodies 11 times more than waiting 3 months after infection, which would increase the likelihood of preventing infection. Another study found that a 12-month interval improved vaccine effectiveness against hospitalization. But, of course, waiting is a gamble, especially for high-risk people.

  Try not to overthink it. 4-6 months is usually the sweet spot. Your healthcare provider is an excellent resource for discussing timing!

2. What if I was *not* recently infected? And why are vaccines becoming available *after* the Covid-19 summer peaked?

The U.S. government is trying to force our seasonal flu model to fit Covid-19, but it's not working well. Covid-19 is clearly not a once-a-year thing—it's now settled in two waves per year. These vaccines were initially planned in anticipation of the winter wave, but the FDA pushed the release up because we've had such a big summer wave.

This makes it very hard to decide *when* to get the Covid-19 vaccine if you have ***not recently had an infection or vaccination***: Get it now or wait until late fall. I've struggled with the decision but decided to wait until Halloween. It will still take some time for vaccines to make it to doctors' offices, and then a vaccine will still take two weeks to work. By then, we will (hopefully) be well on our way down the current wave. Since I'm not high-risk, I might as well wait to catch the next wave, which will coincide with fun holiday activities I don't want to miss.

(Dr. Jen Dowd—one of my favorite scientific communicators— just wrote a great post for those seeking more advice on timing.
Check it out here.)

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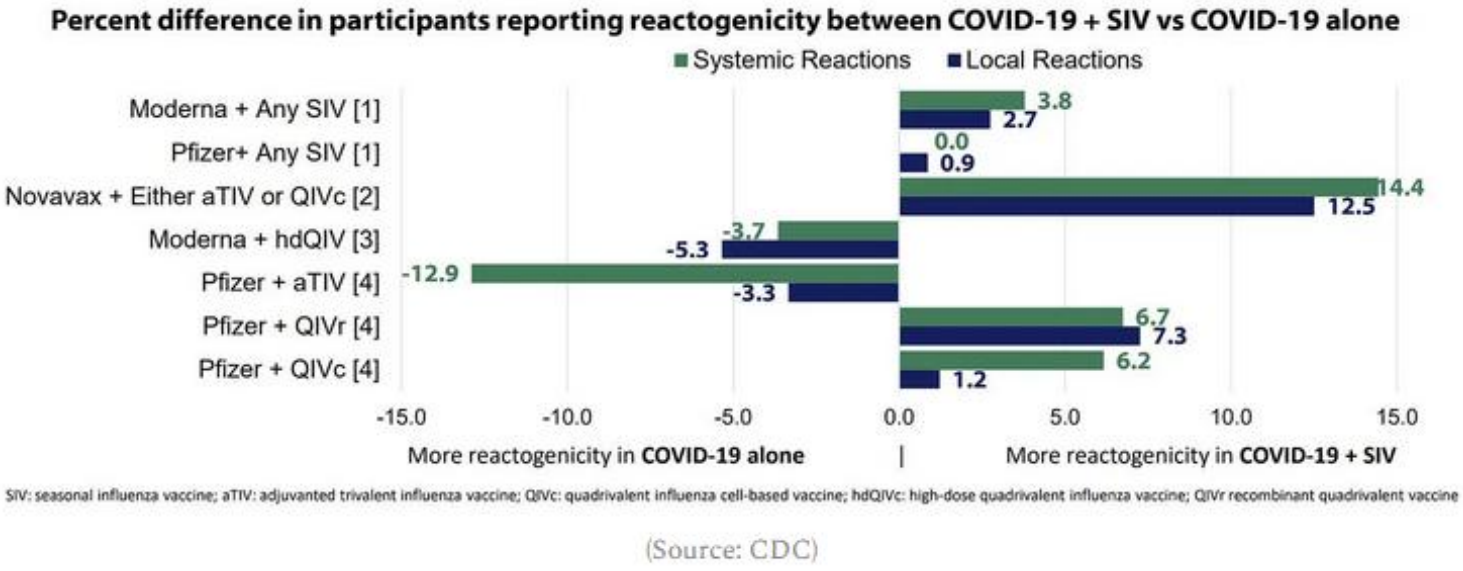
- Fall cont'd from page 5

Regardless, if the U.S. wants Covid-19 vaccines to have a dramatic population-level effect—like how flu vaccines reduce the impact of flu yearly on hospitals and individual disruptions—we need to have vaccines *before* a wave. Implementation would be challenging but not impossible.

3. Can I get the flu and Covid-19 vaccine at the same visit?

Yes! This is called co-administration, and it's recommended for convenience—you don't have to visit the pharmacy or doctor twice.

Studies have been conducted on the safety and effectiveness of co-administration with Covid-19 vaccines. In one database, about 454,000 people got the flu and Covid-19 vaccines. Both worked great. The rate of side effects was the same or a little higher among those who co-administered; however, no specific safety concerns were identified.



(Source: CDC)

There is no combined shot. (Some companies are working on it. Maybe next year?)

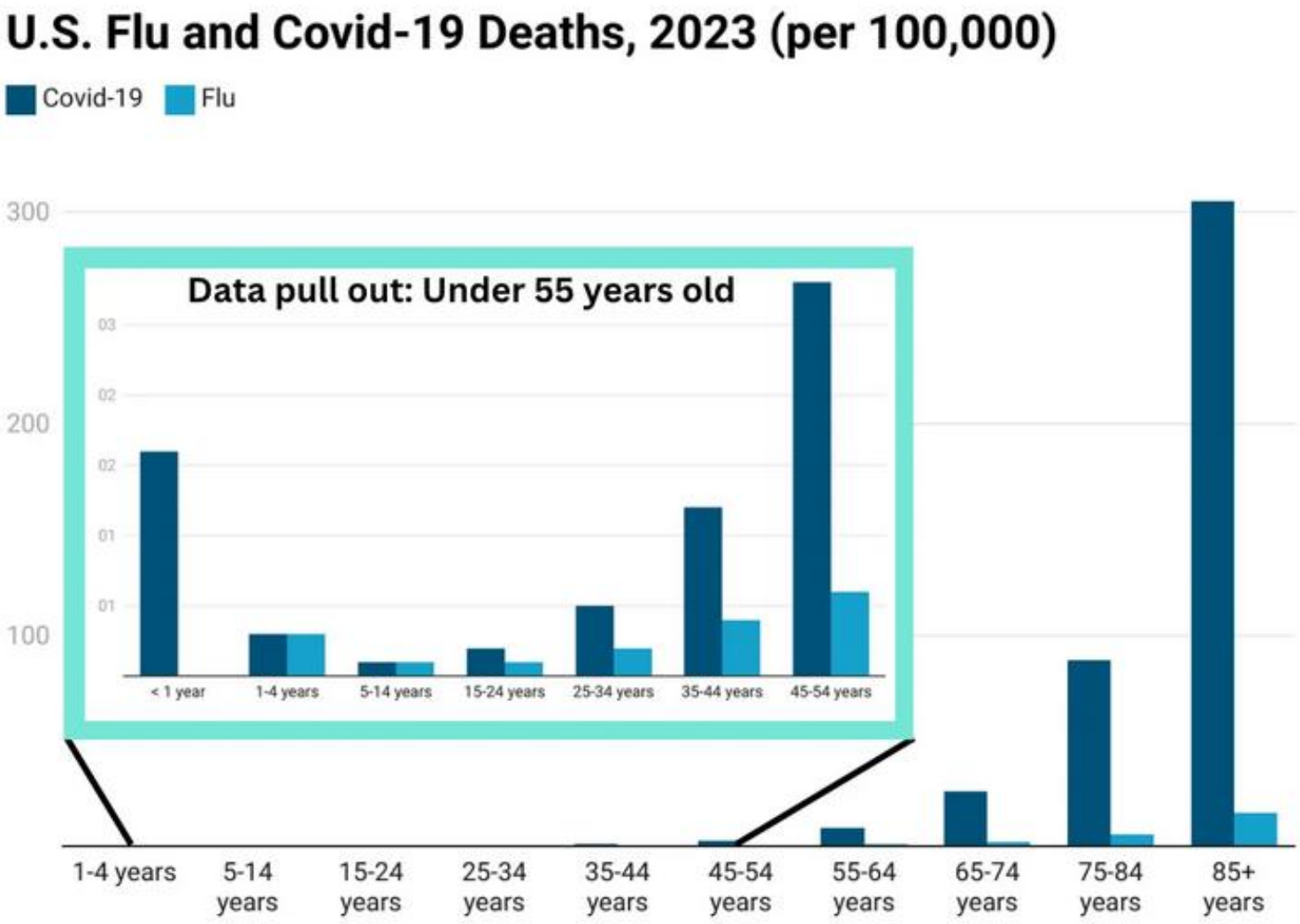
4. Is it worth it for kids? What do other countries do?

In the U.S., everyone 6 months and older is eligible for Covid-19, similar to other countries (like Canada or Japan). Kids in the U.K. or Australia qualify for the Covid-19 vaccine if they have a pre-existing condition. (Note: Not all kids get the flu vaccine in these countries either mainly due to the cost—the government pays for the vaccine, so they must consider this.)

- ***Death***: Covid-19 is about as deadly as the flu among kids but far less risky than for older adults (or those under 6 months old). Covid-19 is more risky for those under 6 months, which is why it's important to get the vaccine during pregnancy.

- Fall cont'd on page 7

-Fall cont'd from page 6



- ***Effectiveness***: They work for kids. Last season, the pediatric vaccines provided ~60% additional protection against going to urgent care for Covid-19, compared to not getting the vaccine.

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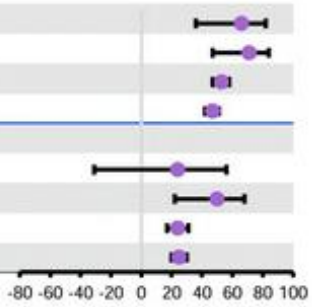
- Fall cont'd from page 7

VISION: VE of 2023–2024 COVID-19 vaccine doses against ED/UC encounters was similar across age groups

September 2023 – May 2024

Age group | COVID-19 vaccination status	Total encounters	SARS-CoV-2-test-positive, N (%)	Median interval since last dose among those vaccinated, days (IQR)	Adjusted VE (95% CI)
No updated 2023-2024 COVID-19 vaccine dose*				
9 months-4 years	30,286	1,180 (4)	349 (236-443)	Ref
5-17 years	37,203	1,449 (4)	650 (449-769)	Ref
18-64 years	148,273	15,100 (10)	751 (573-887)	Ref
≥65 years	59,422	7,430 (13)	609 (399-803)	Ref
2023-2024 COVID-19 dose received 7-59 days earlier				
9 months-4 years	613	10 (2)	33 (19-46)	**66 (36-82)**
5-17 years	805	11 (1)	33 (19-47)	**71 (47-84)**
18-64 years	5,137	313 (6)	34 (20-47)	**53 (47-58)**
≥65 years	8,007	669 (8)	35 (21-47)	**47 (42-51)**
2023-2024 COVID-19 dose received 60-179 days earlier				
9 months-4 years	706	14 (2)	104 (80-137)	24 (-31-56)**
5-17 years	1,343	22 (2)	111 (86-138)	50 (22-68)
18-64 years	8,559	506 (6)	108 (82-137)	24 (17-31)
≥65 years	16,106	1,232 (8)	111 (84-142)	25 (20-30)



(Source: CDC)

- ***Safety***: Unfortunately, the public hasn't seen myocarditis (i.e., inflammation of the heart muscle) data for last season yet, but there's no reason to think it's changed—while there is a safety signal among young men, the risk dropped dramatically for boosters. An analysis last year showed that the benefits still outweigh the risks. The most common causes of myocarditis are viral *infections*, where it's typically much more severe.

- ***Missed school days***: I'm frustrated that we don't have robust data for other outcomes, such as reduced sick days. Since vaccination prevents ~20% of infections in the first few months, we can assume vaccines reduce sick days "a bit." But other than that, we don't know, which is unhelpful for parental decision-making.

5. Are you sure that Novavax isn't better than mRNA vaccines?

Both are good shots. I'm uncomfortable saying one is immunologically better than the other.

We've had some head-to-head studies (here, here, here, and here) showing lots of similarities and some subtle differences:

Similarities

- Both provide a solid first line of defense (i.e., neutralizing antibodies), which helps prevent infection in the first months (but is not perfect.)
- Both strengthen a solid second line of defense (i.e., T cells), which helps prevent severe disease.

Differences

1. ***Negative***: Novavax produced lower levels of a specific antibody called IgG. This *may* contribute to more infections after Novavax than mRNA vaccines.
2. ***Positive***: Novavax had a more durable response over time (waned less quickly).
3. ***Positive***: Novavax has fewer side effects, like pain and muscle aches. For this reason alone, I will be getting Novavax this fall.

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- Fall cont'd from page 8

6. Free antigen tests will be available again this season.

The U.S. government plans to give each household four free at-home Covid-19 tests again this season. This should open in late September. I will be sure to update you when you can order your tests.

There are flu/Covid-19 combined at-home antigen tests now. There isn't one for RSV yet.

Bottom line

Fall is almost here! Make a plan to get your vaccines. The best vaccine is the one you get. Our priority is preventing severe disease among high-risk individuals, but staying up to date has secondary benefits for everyone! ■

To subscribe to Your Local Epidemiologist on Substack please click here: https://yourlocalepidemiologist.substack.com/

Do you have an idea for an EpiMonitor article?

We love epidemiology, biostatistics, and public health and welcome thoughtful and timely contributions to the field. A review of our past newsletters is the best gauge for the type of content we publish.

Please submit your full article as a Word document; submissions should be 800-1000 words. Please include who you are, your current affiliation, and any relevant background, including your qualifications to write on your chosen topic. Conflicts of interest—current or potential, financial or favor—must be disclosed. We read all submissions; if your submission is selected, you will receive an email from our Research Director.

Contact madeline@epimonitor.net to set up an email Q&A, or you can submit for consideration an article about your work.

Join the EpiMonitor on our Facebook page at: https://bit.ly/2U29gUA

or on Twitter at: @theEpimonitor

or on Instagram at: @epimonitor

A Reader Response to Last Month's Article: "A Data Analyst's Guide to Using ChatGPT"

Author: Jessica M. Keralis, PhD, MPH

A Note from the EpiMonitor Staff: Last month we featured a reprint of an article titled "A Data Analyst's Guide to Using ChatGPT," which generated some discussion. By way of background, the majority of EpiMonitor readers are epidemiology academics and as such, our working assumption has been that most people reading this newsletter are familiar with LLMs, and that the way they work (i.e., that they are based on predictive language/text) is fundamentally incompatible with requirements for principled data analysis. Based on this assumption, we found the article helpful in outlining possible uses of LLMs in data analysis, primarily as a tool for syntax correction. We took the general intent of the piece to suggest that ChatGPT and LLMs can be a tool in an analyst's toolbox, not a replacement for the analyst.

We received a letter to the editor indicating this may not have been clear enough and which discusses in detail some of the pitfalls and misconceptions of LLMs that need to be considered by those in our field. We have chosen to print the unedited letter this month as it presents another perspective that will likely resonate with this audience.

To the editor:
As a research epidemiologist with 15 years of data analysis, management, and visualization experience, I was profoundly disappointed to see the article "A Data Analyst's Guide to Using ChatGPT" in the August issue of *The Epidemiology Monitor*. So much of what we as epidemiologists do is informed and guided by data analysis. The idea that it is possible to "leverage" AI to "improve efficiency and productivity" of what should be a careful and purpose-driven activity is alarming, to say the least.

In order to properly frame this issue, it is important to understand how large language models (LLMs) like ChatGPT work. It is a common misconception that LLMs function as sophisticated search engines that "search" for the answer to a user's question within their inputs and summarize it in plain language. Their actual mechanism is nothing like a search engine. These models cannot think, reason, interpret, or even search. They digest and generate language (either spoken language or coding language) using a probability distribution that they develop unsupervised, based on the inputs that they are fed.

When LLMs are given input, they tokenize the text to convert it to a machine-readable format and then use those tokens to form a probability distribution that tells them which words are likely to come before, and after, other words. Then, when provided with a prompt, the model samples from that same probability distribution to generate text. OpenAI, the organization that developed ChatGPT, explains the process as

- ChatGPT cont'd on page 12

> *OpenAI's large language models…process text using tokens, which are common sequences of characters found in a set of text. The models learn to understand the statistical relationships between these tokens, and excel at producing the next token in a sequence of tokens.*

For natural (spoken) language, that generated text "sounds" human because its probability distribution was developed by digesting massive amounts (terabytes) of human-written text. However, the model (in this case, ChatGPT) does not "understand" questions that it is asked of it or "search" the internet for answers. It tokenizes the question, and then it samples from a probability distribution to generate the answer that statistically "looks like" it would follow that question. There is no insight or understanding involved.

The process is similar when ChatGPT "analyzes" data. When a user provides a dataset to ChatGPT and asks the model to analyze it, ChatGPT generates Python code to import the data and generate the output requested by the user. However, the model writes the Python code using the same process it uses to produce a written response in natural language: it generates coding syntax using a probability distribution it developed from tokenizing many millions of lines of Python code fed to it from all over the internet. ChatGPT has a reputation for being useful for coding tasks because programming syntax has more consistent rules and fewer terms than spoken language. This makes the structure of the syntax easier to replicate.

ChatGPT can be useful for identifying syntax errors in code that will not run properly. It can also suggest code for complex data *management* tasks, such as loops to import data from multiple identically formatted data tables (think of a series of Excel workbooks). In such cases, it is straightforward for an analyst to confirm that the suggested correction results in their code running properly, or that the data import was done correctly. However, the model has been shown to be unreliable for guidance on software programming challenges. This analysis conducted by researchers at Purdue University found that ChatGPT produces wrong answers to software programming questions more than half the time. More importantly, the model is incapable of truly analyzing data. "Analyze" is defined as "examine methodically and in detail the constitution or structure of (something, especially information), typically for purposes of explanation and interpretation." ChatGPT generates code to do things with the user's data based on a probability distribution. It cannot examine, understand, explain, or interpret it.

Data analysis, particularly for epidemiologic or other public health applications, should always be done with a goal in mind, or a question to answer. For research, the choice of statistical test or modeling approach should be based on a theoretical framework and informed by the existing literature and subject matter expertise. For public health practice applications, the analytic approach should be developed based on the need of the end user. Interpreting results requires background knowledge and statistical training. A probability engine cannot do any of those things. To trust one to try is

- ChatGPT cont'd on page 13

- ChatGPT cont'd from page 12

irresponsible at best. I found the suggestion that one can use ChatGPT "like you would a colleague or mentor" very troubling, particularly given the tendency of these models to "hallucinate" and give demonstrably false information. I would never advise a junior scientist to treat a statistically-driven LLM like a senior expert who has decades of career wisdom and insight from lived experience.

I understand that high-quality data analysis is difficult to do, and that the learning curve can be steep and frustrating. Even now, I remember that frustration well. I was a junior analyst once, too. However, the best way for an analyst to improve their efficiency and productivity is to get better at it through practice. Build your expertise by seeking guidance from humans and human-written (and verified) guidance. Using LLMs as an aide - one that has a high probability of leading you astray - only delays the development of skills. The work we dedicate our careers to as epidemiologists is complex, nuanced, and incredibly high-stakes. We outsource it to machines at not only our peril, but also the peril of those whom our careers are meant to serve – the people.
■

Dear Dr. Keralis,

I admit I was a bit surprised that my article was interpreted as advocating for the replacement of human data analysts with ChatGPT. Such was not my intention, nor do I dispute your detailed explanation of how LLMs work, their strengths and weaknesses, and the biases they can potentially perpetuate.

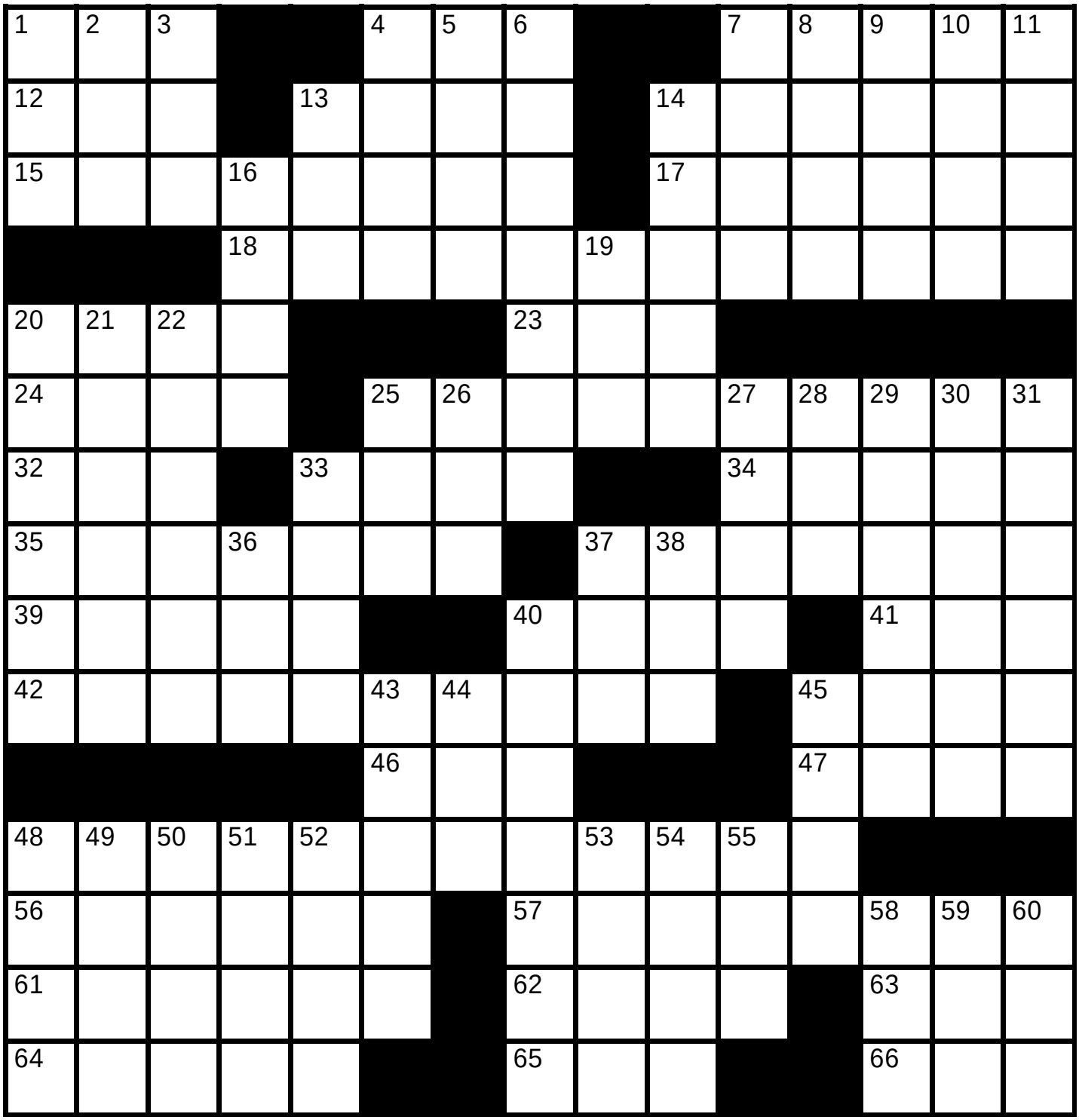
However, I would like to offer some perspective. I am a former American literature professor. I went to graduate school when the Internet was still relatively new, and there was much handwringing over students using Wikipedia and Google search to help write their papers. Yet today, I cannot imagine an educator asking their students not to use search engines for research.

By the same token, I do not think we have anything to fear from junior epidemiologists turning to ChatGPT for help debugging code, or suggesting possible reasons why their model isn't behaving as expected. And to your last point, let's not forget that the public health workforce was decimated by the pandemic. I wrote this post with the goal of helping my early career peers, most of whom do not have access to a supportive senior epidemiologist to mentor them but are nonetheless expected to do the important work of public health.

Is ChatGPT a perfect tool? Of course not. Will it replace human analysts? Not anytime soon. But as my own mentor is fond of saying, don't let the perfect become the enemy of the good.
Respectfully,
Heather Duncan, MPH, PhD

Epi Crossword Puzzle – September 2024
IMRD or Perish

Our crossword puzzle was created by by Dr. Richard Dicker—A former CDC employee and a not-quite-retired epidemiologist. For an online version go to: https://tinyurl.com/y9fa5kap



- Crossword Questions cont'd on page 15

-Crossword Questions cont'd from page 13

Across

1. 1 and 3, for example

4. Cole Porter's "___ Clown"

7. Rank and last name of "Catch-22" character

12. British john

13. Language of Pakistan

14. To wit

15. Sounds like a type of variable, but it's really circumspect

17. National park about 1 hour from 39-Across

18. Part of IMRD

20. Brewing ingredient

23. What the forward slash means in "deaths / 100,000 population / year"

24. Starting point for un inventeur

25. Part of IMRD

32. Blood factors

33. Grand Ole ___

34. Ghana's capital

35. Part of IMRD

37. Part of IMRD

39. Home of U. Maine

40. Qualitative descriptor of quantity

41. Super ___ (GameCube predecessor)

42. Section that follows IMRD

45. Financial services co. that dropped "CREF" from its name in 2016

46. Grassy area

47. Legal rights org.

48. Possible subheading under 37-Across

56. "Fail to reject" error

57. Roman numeral M

61. C_8H_{18}

62. Diner sign

63. technology that links data to locations (abbr.)

64. Where Robert Frost was when he had "miles to go before I sleep"

65. Genetic info carrier

66. Building addition

Down

1. Up there in years

2. Unique code for one of 42-Across (abbr.)

3. Windows predecessor

4. Pulitzer-winning columnist Stephens

5. River of central Germany

6. Basis of post-mortem confirmatory diagnosis

7. Book of the Apocrypha connected to the origin of Hanukkah (abbr.)

8. Amo, amas, ____ (Latin 101)

9. Yoda or Obi-Wan Kenobi

10. Mixture

11. Actor Reynolds or Gosling

13. Receptacle for ancient Greek or "Survivor" votes

14. Smallest South Pacific nation

16. Give credit in 42-Across section

19. Xmas mo.

20. Medicine chest door, usually

21. Stick

22. "____ this and more of that"

25. Former version of vaccine recommended at 2, 4, and 6 months, 15-18 months, and 4-6 years

26. U.S. tax agency

27. Satisfy

28. Part of H.S. (Abbr.)

29. Quintessential

30. Tough slog

31. Caribbean capital or county on Long Island

33. Scent, in Sevilla

36. French article

37. One of the Three Stooges

38. Dashes longer than hyphens

40. Plot of dots representing values for two numeric variables

43. Name of girlfriend in "Cabaret" song

44. Michelle Obama ___ Robinson

45. HTML <keywords>

48. Put away

49. Toy company acquired by Mattel

50. Not exceeding

-Crossword Questions cont'd from page 14

Down

51. Word after Grateful or before end

52. Yangs' counterparts

53. Comparison word

54. Tiny bit

Down

55. N's in Athens

58. Descriptive epidemiology variable

59. Common soccer score

60. Broadband hookup initials

Call for 2025 Events

Do you have an event scheduled for 2025? We are starting the process of building our calendar for next year and we need your event listings to make them available to all. There is NO CHARGE for this listing.

To list your event we need:
Event Name, Date, URL, Sponsor(s), Location
We also need to know what type of an event it is:
Conference, Meeting, Short Course, or Summer Program
and whether or not it is a virtual, hybrid or in-person event.

We publish our full year calendar at the end of December each year. At the end of February we publish a special edition about summer programs worldwide. We invite you to submit events for both publications.

For more information please contact:

Michele Gibson / michele@epimonitor.net

What We're Reading This Month

Editor's Note: All of us are confronted with more material than we can possibly hope to digest each month. However, that doesn't mean that we should miss some of the articles that appear in the public media on topics of interest to the epi community. The EpiMonitor curates a monthly list of some of the best articles we've encountered in the past month. See something you think others would like to read? Please **send** us a link at info@epimonitor.net and we'll include it in the next month.

Public Health Topics

- Scientific American makes second-ever endorsement, backs Kamala Harris (Axios)
  https://tinyurl.com/255hrpwp

- After years of slowing progress, new HIV infections fall sharply in San Francisco (SF Chronicle via Apple News)
  https://tinyurl.com/4yhjxchw

- The First Round of the Gaza Polio Vaccine Campaign Is Complete. The Next Step Will Be Just as Hard (Time Magazine)
  https://tinyurl.com/47hy4uk4

- The Pivotal Decision That Led to a Resurgence of Polio (NY Times Gift Article)
  https://tinyurl.com/mtsas7zp

- Crispr-Enhanced Viruses Are Being Deployed Against UTIs (Wired)
  https://tinyurl.com/y42awuzv

- Childhood trauma linked to specific health risks (Axios)
  https://tinyurl.com/mt257fvu

- 'Unprecedented' cluster of mosquito-borne dengue virus cases confirmed in Baldwin Park (LA Times via AppleNews)
  https://tinyurl.com/3tbndkts

- Scientists Determine Once and for all If Cell Phones Cause Brain Cancer (Prevention)
  https://tinyurl.com/33y79ewb

- College game canceled in mysterious circumstances over whooping cough (Daily Mail)
  https://tinyurl.com/mvt5h9sy

- Reading cont'd on page 17

Bird Flu

- Source of person's recent bird flu case remains a mystery — and experts say that's concerning (Live Science)
  https://tinyurl.com/4bv3nfs8

- Bird flu is spreading rapidly in California; infected herds double over weekend (ARS Technica)
  https://tinyurl.com/ak4krnrt

- Missouri sees first positive bird-flu case without known animal contact (The Guardian)
  https://tinyurl.com/vnw952yh

COVID-19

- Yes, It's Still Really Worth Avoiding COVID—Even If You've Already Had It a Few Times (Self Magazine)
  https://tinyurl.com/57y8dz4r

- Free COVID tests are coming soon: How and when to order them (USA Today)
  https://tinyurl.com/3fwuudck

- Do At-Home COVID-19 Tests Still Work? (Time Magazine)
  https://tinyurl.com/yz77bnwn

- COVID-19 affects memory and cognition long after infection, study warns (Newsweek)
  https://tinyurl.com/mumcy3fd

- New COVID subvariant XEC poses potential threat heading into winter (LA Times)
  https://tinyurl.com/3a72kfne

Notes on People

Do you have news about yourself, a colleague, or a student?

Please help The Epidemiology Monitor keep the community informed by sending relevant news to us at this address for inclusion in our next issue. people@epimonitor.net

Honored: The Royal Society announced that its Michael Faraday Prize and Lecture is awarded to Professor **Salim Abdool Karim**, MBChB, FFPHM, PhD, CAPRISA Professor for Global Health in the Department of Epidemiology at Columbia University Mailman School of Public Health. He is also Director of the Centre for the AIDS Program of Research in South Africa (CAPRISA). The honor was bestowed for Abdool Karim's scientific leadership, policy advice, epidemiological analyses, and articulate public education, while actively countering disinformation in Africa, particularly South Africa, during the Covid-19 pandemic.

Appointed: Bhramar Mukherjee, a leader in the field of public health statistics and data science who recently joined the Yale faculty, has been appointed the Anna M.R. Lauder Professor of Biostatistics. The appointment, which began on Aug. 1, is for a term of 10 years, renewable by the dean of the Yale School of Public Health (YSPH).

She joined the YSPH faculty last month as the inaugural senior associate dean of public health data science and data equity. She assumed the Lauder chair previously held by Paul Cleary, the school's former dean.

Near Term Epidemiology Event Calendar

Every December The Epidemiology Monitor dedicates that issue to a calendar of events for the upcoming year. However that often means we don't have full information for events later in the upcoming year. Thus an online copy exists on our website that is updated regularly.
To view the full year please go to: http://www.epimonitor.net/Events The events that we are aware of for the next month follow below.

October 2024

October 7-9 https://tinyurl.com/a7ektvku
Conference: Conference on Neglected Tropical Diseases / Academic Medical Education, Inc / Nairobi, Kenya & Virtual

October 16-20 https://bit.ly/3uYKFES
Conference: ID Week / Multiple Sponsors / Los Angeles, CA

October 20-24 https://tinyurl.com/mrzp2cjn
Conference: ISES Annual Meeting / International Society of Exposure Science / Montreal, Canada

October 24-26 https://tinyurl.com/yc7szpz9
Conference: 4th International Vaccines Conference / Magnus Group / Baltimore, MD

October 27-30 https://tinyurl.com/mr3pphe2
Conference: APHA Annual Conference 2024 / APHA / Minneapolis, MN

October TBD https://tinyurl.com/rxykuhmw
Conference: Annual ISPE Asia Conference / ISPE / Tainan, Taipei

November 2024

November 5-8 https://tinyurl.com/7tcjta6b
Short Course: Leadership Development to Advance Equity in Healthcare / Harvard Unversity / Online

November 5-9 https://tinyurl.com/y2nzvpry
Conference: American Society for Human Genetics 2023 Annual Meeting / ASHG / Denver, CO

November 11-17 https://tinyurl.com/euzkrjhw
Conference: 17th International Symposium of Veterinary Epidemiology and Economics (ISVEE 17) / Multiple / Sydney, Australia

November 12-15 https://bit.ly/3jcNVcY
Conference: 17th World Congress on Public Health / European Public Health Association / Lisbon, Portugal

November TBD http://tinyurl.com/4j7weh3y
Short Course: Principles of Public Health / Erasmus MC / Rotterdam, The Netherlands

November TBD https://tinyurl.com/2a679m9p
Conference: IGES 2024 / International Genetic Epidemiology Society / Nashville, TN

SCHOOL OF PUBLIC HEALTH
EPIDEMIOLOGY
UNIVERSITY OF MICHIGAN

Open-Rank Tenure-Track Faculty

The Department of Epidemiology at the University of Michigan School of Public Health invites applications for an open-rank tenure-track faculty position with a focus on infectious disease epidemiology. The successful candidate will have or develop a research program that includes a laboratory component focused on one or more viral pathogens within a population health context, nationally or globally. We are interested in a broad range of substantive areas including virology, immunology, and global health. We seek an innovative, high-quality scholar dedicated to researching and combating viral infectious diseases. We are especially interested in highly qualified candidates who can contribute, through their research, teaching, and/or service, to the diversity and excellence of the academic community.

We especially encourage applications from scientists whose research focuses on biosafety level 3 (BSL-3) pathogens, the epidemiology and transmission of viral pathogens, vector-borne diseases, emerging viral infections, immunology, pathogenesis and/or work in a global setting. Ultimately, we seek to recruit and retain a diverse workforce that reflects our commitment to serve the diverse people of Michigan, to maintain the excellence of the University, and to offer our students richly varied perspectives, educational and applied experiences, and ways of knowing and learning.

Required qualifications include a doctoral degree and a strong track record of infectious disease epidemiological research. Applicants are expected to have evidence of independence and the potential to become strong graduate-level instructors.

Our Department of Epidemiology is home to more than 40 highly interdisciplinary, internationally recognized faculty members whose research encompasses a broad range of epidemiologic disciplines. The Department also has 23 joint and adjunct faculty members who hold primary appointments in other departments (e.g., Environmental Health Sciences, Biostatistics, Medicine, Institute for Social Research, among others) or who work in important public health sectors outside of academia. Research expenditures in the Department of Epidemiology were just under $37 million dollars during the 2022 fiscal year. BSL-2 and BSL-3 facilities are available in the School of Public Health, supporting cutting-edge research on infectious diseases. The Department, School and University have several relevant research centers including the Michigan Center for Infectious Disease Threats (MCIDT), Molecular and Clinical Epidemiology of Infectious Diseases (MAC-EPID), Center for Respiratory Virus Research and Response, and the Center for Global Health Equity (CGHE). The Department has large and highly successful training programs at both the masters and doctoral level, and the School of Public Health has a thriving undergraduate program.

A **complete application** should include:

1. Curriculum Vitae, including the complete contact information of three people who may be asked to write a letter of reference (we will not contact these individuals without first informing you that we will do so).
2. Statement of current and future research plans (3-4 pages).
3. Statement of teaching philosophy and experience, including courses you may wish to teach (1-2 pages).
4. The University of Michigan School of Public Health is strongly committed to building and supporting the needs of a diverse public health workforce and research community. Please provide a statement discussing the ways in which you have - or plan to - address systemic social inequalities and advance the goals of diversity, equity and inclusion via your research, teaching, and academic service (1-2 pages).

Interested applicants should apply online via this link. Review of applications will begin **October 7, 2024** and continue until suitable candidates are identified. Inquiries regarding this position can be directed to the search committee via email at epidfacsearch@umich.edu

The University of Michigan is an Equal Opportunity/Affirmative Action Employer. Minorities and women are particularly encouraged to apply. This search will be conducted in a manner consistent with the University of Michigan's newly released campus-wide Diversity, Equity & Inclusion Planning Initiative. For more information, see http://diversity.umich.edu/our-commitment/. The University is responsive to the needs of dual-career couples.

Course: Communicating About Science

Katelyn Jetelina, MPH PhD—epidemiologist and scientific communicator—will share the lessons she learned during COVID-19 of rapidly communicating and translating public health science to the general public and trusted messengers. She will share pro tips along the way so epidemiologists can integrate effective communication into every aspect of their job to positively impact their community.

Use this link to sign up for Dr. Jetelina's Your Local Epidemiologist newsletter with a 40% discount.

Lesson 1 Integrating Knowledge Translation into Public Health Practice

By the end of the lesson, participants will be able to:

1. Distinguish the difference between scientific writing with scientific communication to the public.
2. List and apply four key considerations before developing content for knowledge translation.
3. Define the key principles of information design, including clarity, simplicity, hierarchy, and visual appeal.
4. Describe the role of visual elements, such as images, charts, graphs, icons, and typography, in enhancing the clarity and accessibility of written products.
5. List several user-centered design methodologies and how they can provide critical feedback to communication strategies.
6. Use social listening, such as focus groups, readability assessments, and usability testing, to gather feedback from target audiences and iteratively improve the design and content of public health written materials.

This training series was funded by CDC Cooperative Agreement No: 1 NU38OT000297-03-00. The contents of this training are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

Competencies:

- 1.8 – Data Analytics and Assessment Skills – Interprets results from data analysis
- 2.2 – Public Health Sciences Skills – Collaborates with others to support public health activities
- 3.1 – Communication Skills – Determines communication strategies
- 3.3 – Communication Skills – Facilitates accessible communication among individuals, groups, and organizations
- 3.4 – Communication Skills – Disseminates messages to internal and external audiences
- 4.2 – Community Partnership Skills – Maintains bidirectional relationships that improve community health and resilience

Click here for more information: https://tinyurl.com/mryup4yc

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