

Zika Virus is at Least 50 Years Old (1100L)

Instructions: COMPLETE ALL QUESTIONS AND MARGIN NOTES using the CLOSE reading strategies practiced in class. This requires reading of the article three times.

Step 1: Skim the article using these symbols as you read:

(+) agree, (-) disagree, (*) important, (!) surprising, (?) wondering

Step 2: Number the paragraphs. **Read** the article **carefully** and **make notes in the margin**.

Notes should include:

- Comments that show that you **understand** the article. (A summary or statement of the main idea of important sections may serve this purpose.)
- Questions you have that show what you are **wondering** about as you read.
- Notes that differentiate between **fact** and **opinion**.
- Observations about how the **writer's strategies** (organization, word choice, perspective, support) and choices affect the article.

Step 3: A final quick read noting anything you may have missed during the first two reads.

Your **margin notes** are part of your score for this assessment. Answer the questions carefully in **complete sentences** unless otherwise instructed.

Student _____ Class Period _____

Zika Virus Is At Least 50 Years Old. Here's Why You're Only Hearing About It Now

An infectious disease specialist explains all you need to know.

A health worker in Brazil tells residents to remain inside during fumigation in an attempt to eradicate mosquitos, which transmit the Zika virus. As the Zika virus spreads, so has widespread alarm and confusion. The leader of the World Health Organization said Wednesday that it is "spreading explosively," estimating up to 4 million infections over the next year.

The Centers for Disease Control and Prevention has said that a U.S. outbreak of the mosquito-borne virus, which is spreading rapidly through mostly central and South America, is "likely," but the risk for local transmission is low. In Brazil, the virus has been linked to several thousand cases of microcephaly, a rare birth defect which causes shrinkage of the skull and brain.

"The level of concern is high, as is the level of uncertainty," WHO director-general Dr. Margaret Chan told the organization's executive board members. "We need to get some answers quickly." To explain more, HuffPost Science talked to Dr. Arnold Monto, a professor of epidemiology at the University of Michigan School Of Public Health, whose work focuses on the causes and prevention of infectious diseases in industrialized and developing countries.

Why is Zika virus spreading now, when it's been around for decades in Asia and Africa? This is not a new virus. It's been known for 25 or 30 years but has never really spread to this extent. This virus has been documented in Africa. It was documented creating issues in Indonesia. It was one of these things were you get a couple days of

Notes on my thoughts, reactions and questions as I read:

Zika Virus is at Least 50 Years Old (1100L)

fever, a little bit of a rash, maybe some joint pain and then it goes away. It was dismissed.

Zika had been viewed as a minor threat until we got into the situation where there were enough new cases to recognize this microcephaly situation, which has not been recognized before. Why have we never seen cases of microcephaly before associated with the Zika virus?

There were not a lot of previous cases in pregnant women occurring at the same time. If only 5 percent of those infected have children with microcephaly, it would take lots of infections to have the abnormality both detected and related to Zika. Why do we see it now? Because there are so many cases occurring in an area where people are recognizing the disease. If it's occurring in a rural area in central Africa, it may not be recognized even though it's occurring at a low level.

The reason we have not seen this before is that there were not a lot of previous cases in pregnant women occurring at the same time. Is it common for a virus to exist in low levels for decades and then suddenly spread on a large scale?

We've seen this in some other cases. It's really a question of finding a happy situation for transmission -- everything is really related to transmission and susceptibility. We'd seen Ebola outbreaks before, but never to the extent that we saw it in West Africa last year simply because it was allowed to move into urban areas.

Once a virus goes from benign to 'spreading exponentially,' what comes next? Sooner or later -- often sooner, with something that's transmitting to this extent -- you're going to hit what we call "exhaust susceptibles." The virus is going to peak and then start going down. So that's when you see that there's crowding of susceptible individuals living in areas where vector control is difficult. It will almost certainly peak then.

Do you think we've reached the peak point yet for the Zika virus?

We'll see. There have been certain places where there have been intense transmission -- extreme levels have been seen in crowded disadvantaged areas of Brazil. But it's going to continue to be a problem in more suburban or rural areas.

How do you think this outbreak will play out the U.S.?

We're going to see occasional introductions into the United States. There may be localized transmissions in the Southern U.S. if there are introductions, but it's unlikely to spread beyond those areas and it probably will be fairly easy to control because we've got the infrastructure to do it.

What's the best response, on both an international and a local level?

In an area where transmission is taking place, aggressive mosquito control. In areas where transmission is not taking place, delaying travel for those pregnant to known infected areas.

Notes on my thoughts, reactions and questions as I read:

Zika Virus is at Least 50 Years Old (1100L)

Comprehension questions – answers may be in phrases.

1. *According to the text, what U.S. location is a likely place for a Zika outbreak?*
2. *List two organizations mentioned in the text whose focus is world-wide health.*
3. *Define **benign** as used in the article.*
4. *List four locations with reported Zika cases.*
5. *Define **eradicate** as used in the text. .*

7/8.RI.1.2.3.4

Answer each question in one or more complete sentences and by providing complete explanations.

1. *Why would transmission of a mosquito-borne illness be higher in “crowded, disadvantaged areas”? Explain fully citing evidence from the text to support your answer.*
2. *Explain why health care workers would recommend that residents remain inside during fumigation efforts (paragraph2).*

7/8.RI.1,2,3,4

Zika Virus is at Least 50 Years Old (1100L)

3. *You have planned a trip to Brazil in the near future. Based on the information presented in the text, do you proceed with your vacation plans, or do you cancel your vacation? Answer in a well-developed paragraph citing a solid claim and providing evidence from the text to support your answer.*

7/8.RI.1,8

4. *Based only on the data presented in the text, how many possible microcephaly cases could potentially occur over the course of the next year. Cite evidence from the text and provide an explanation.*

7/8 RI 1 4 5 8