
Top Infectious Disease Threats of 2025: Expert Insights

Description

The sudden emergence and rapid spread of COVID-19 resulted in the unfortunate deaths of millions across the globe. Since then, there has been a palpable apprehension amongst the populace regarding the potential outbreak of the next major infectious disease, be it a virus, bacterium, fungus, or parasite.

With the effective containment of COVID-19 due to successful vaccination campaigns, the current focus of public health officials has shifted to three primary infectious diseases: malaria (caused by a parasite), HIV (a viral infection), and tuberculosis (caused by a bacterium). Together, these diseases claim approximately 2 million lives annually.

In addition to these well-known threats, there are watchlists highlighting priority pathogens that have developed resistance to conventional treatments, including antibiotics and antivirals.

Scientists remain vigilant, monitoring potential threats on the horizon. While the nature of the next pathogen is unpredictable, certain categories, such as influenza viruses, pose a significant risk of triggering swift outbreaks.

influenza A virus particles under a microscope

Colorized transmission electron micrograph of influenza A virus particles. ([NIAID/Flickr/CC-BY-SA 2.0](#))

Presently, influenza A subtype H5N1, known as 'bird flu,' is a cause for significant concern, with infections reported in various bird and animal species. The potential transmission of bird flu to humans remains a looming threat, as evidenced by recent cases linked to animal contact.

While H5N1 currently lacks efficient human-to-human transmission, a single genetic mutation could transform it into a pandemic threat. Governments have proactively devised pandemic preparedness plans, such as stockpiling vaccines, to mitigate potential risks.

Emphasizing the interconnectedness of human, animal, and environmental health, the 'one health' approach underscores the importance of holistic disease prevention and control. In addressing existing slow pandemics like malaria, HIV, and tuberculosis, alongside monitoring emerging threats, we strive to safeguard global health proactively.

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Vocabulary List:

1. **Apprehension** /,æp.rɪ'hɛn.ʃən/ (noun): An anxious feeling about something bad that might happen.
2. **Pathogen** /'pæθəgən/ (noun): An organism that causes disease such as a virus or bacterium.
3. **Transmission** /trænz'mɪʃən/ (noun): The act of passing something from one person or place to another specifically in the context of disease.
4. **Mitigate** /'mɪt.i.geɪt/ (verb): To make something less severe harmful or painful.
5. **Holistic** /hoʊ'lɪs.tɪk/ (adjective): Relating to or concerned with complete systems rather than with individual parts.
6. **Vaccination** /,væk.sɪ'nei.ʃən/ (noun): The act of administering a vaccine to help the body develop immunity against a disease.

Comprehension Questions

Multiple Choice

1. What are the three primary infectious diseases currently focused on by public health officials?
Option: COVID-19, Ebola, Zika
Option: Malaria, HIV, Tuberculosis
Option: Influenza, Dengue, Hepatitis
Option: Measles, SARS, Cholera
2. Which type of pathogen causes malaria?
Option: Virus
Option: Bacterium
Option: Fungus
Option: Parasite
3. What is the main concern associated with influenza A subtype H5N1?
Option: Human-to-human transmission
Option: Infections in animal species
Option: Lack of genetic diversity
Option: Antibiotic resistance
4. What approach emphasizes the interconnectedness of human, animal, and environmental health?
Option: One Direction approach



- Option: Triple Threat approach
- Option: One Health approach
- Option: Connected Ecology approach

5. What is the potential consequence of a single genetic mutation in the H5N1 virus?

- Option: Development of a vaccine
- Option: Transform into a pandemic threat
- Option: Decrease in infectivity
- Option: Extinction of the virus

6. Which category of pathogen poses a significant risk of triggering swift outbreaks?

- Option: Fungi
- Option: Viruses
- Option: Parasites
- Option: Bacteria

True-False

- 7. Influenza A subtype H5N1 is commonly known as "bird flu."
- 8. The article mentions that there have been recent cases of direct human-to-human transmission of H5N1.
- 9. The focus of public health officials has shifted towards eradicating COVID-19 completely.
- 10. The "One Health" approach advocates for separating human, animal, and environmental health concerns.
- 11. Antibiotics and antivirals have been effective in treating all priority pathogens mentioned in the text.
- 12. It is mentioned in the article that H5N1 lacks efficient human-to-human transmission.

Gap-Fill

13. Influenza A subtype H5N1 is commonly known as "bird flu," with infections reported in various bird and animal species. The potential transmission of bird flu to humans remains a looming _____



14. Governments have proactively devised pandemic preparedness plans, such as stockpiling _____, to mitigate potential risks.
15. Together, malaria, HIV, and tuberculosis claim approximately _____ lives annually.
16. While the nature of the next pathogen is unpredictable, certain categories, such as _____, pose a significant risk of triggering swift outbreaks.
17. Scientists remain vigilant, monitoring potential threats on the _____.
18. In addressing existing slow pandemics like malaria, HIV, and tuberculosis, alongside monitoring emerging threats, we strive to safeguard global health _____.

Answer

Multiple Choice: 1. Malaria, HIV, Tuberculosis 2. Parasite 3. Infections in animal species 4. One Health approach 5. Transform into a pandemic threat 6. Viruses

True-False: 7. True 8. False 9. False 10. False 11. False 12. True

Gap-Fill: 13. threat 14. vaccines 15. 2 million 16. influenza viruses 17. horizon 18. proactively

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What term describes something that has been uncovered or discovered?

Option: Drowned
Option: Invisible
Option: Unearthed
Option: Hidden

2. Which word refers to heavenly or divine entities?

Option: Terrestrial
Option: Mundane
Option: Supernatural
Option: Celestial



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3. What does it mean when objects are in proper or correct relative positions?
- Option: Disarray
 - Option: Misalignment
 - Option: Alignment
 - Option: Chaotic
4. Which term describes something strong healthy and vigorous?
- Option: Fragile
 - Option: Delicate
 - Option: Robust
 - Option: Weak
5. What does it mean to make something less severe serious or painful?
- Option: Intensify
 - Option: Worsen
 - Option: Amplify
 - Option: Mitigate
6. Which term is used to describe anxiety or fear that something bad will happen?
- Option: Elation
 - Option: Joy
 - Option: Contentment
 - Option: Apprehension
7. What term is used to describe the act of fighting or opposing something?
- Option: Embracing
 - Option: Accepting
 - Option: Surrendering
 - Option: Combatting
8. Which word is used to describe keenness or sharpness especially in perception or vision?
- Option: Blurriness
 - Option: Dullness
 - Option: Clarity
 - Option: Acuity
9. What term describes something that has not happened before or never seen or experienced?
- Option: Common
 - Option: Ordinary
 - Option: Unprecedented
 - Option: Typical



10. What term is used to describe an approach that considers the whole system or entity?

Option: Fragmented

Option: Partial

Option: Holistic

Option: Limited

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. The _____ of historical artifacts is crucial for maintaining cultural heritage.

12. The distance between stars is measured in _____ units.

13. The _____ of information across long distances has been revolutionized by modern technology.

14. The car accelerated at an incredible _____ on the open highway.

15. The garden was filled with a _____ of colorful flowers.

16. Regular exercise is said to promote health and _____.

17. The confidential documents were securely _____ from unauthorized access.

18. An _____ of the moon occurs when it passes directly behind the earth into its shadow.

19. The artist _____ painted every detail of the landscape with precision.

20. A _____ can help protect individuals from certain infectious diseases.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. Natural disasters such as hurricanes and earthquakes are catastrophic .

22. Lions and tigers are examples of animals that primarily eat meat.

23. An is an event where one celestial body is hidden by another.



24. The sun's is visible during a total solar eclipse.
25. Teamwork is in achieving success in most projects.
26. The ability to bounce back from adversity is known as .
27. The priest performed an to summon divine blessings during the ceremony.
28. Efforts to reduce carbon emissions are important for environmental .
29. Deer and rabbits are known for being primarily feeding on plants and vegetation.
30. Ancient artifacts were during the archaeological dig.

Answer

Multiple Choice: 1. Unearthed 2. Celestial 3. Alignment 4. Robust 5. Mitigate 6. Apprehension 7. Combatting 8. Acuity 9. Unprecedented 10. Holistic

Gap-Fill: 11. Preservation 12. Astronomical 13. Transmission 14. Velocity 15. Myriad 16. Longevity 17. Shielded 18. Eclipse 19. Meticulously 20. Vaccination

Matching sentence: 1. Phenomena 2. Carnivorous 3. Occultation 4. Coroná 5. Instrumental 6. Resilience 7. Invocation 8. Mitigation 9. Herbivorous 10. Unearthed

CATEGORY

1. Health - LEVEL5

Date Created

2024/12/28

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