National Institutes of Health Update

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Global Examples of Emerging and Re-Emerging Infectious Diseases

Antimicrobial-resistant threats
- CRE - C. difficile
- MRSA - N. gonorrhoeae

Cyclosporiasis
E. coli O157:H7
Measles
Listeriosis
Adenovirus 14
Human monkeypox
Bourbon virus
Acute flaccid myelitis
2009 H1N1 influenza
Anthrax bioterrorism
Hantavirus pulmonary syndrome
Zika virus
Dengue
Chikungunya
Yellow fever
Human African trypanosomiasis

West Nile virus
Heartland virus
Powassan virus
Cryptosporidiosis
E. coli O104:H4
Ebola virus
Drug-resistant malaria
Diphtheria
Akhmets virus
MERS-CoV
Rift Valley fever
Typhoid fever
SFTSV bunyavirus
E. coli O157:H7
PNA syndrome
H5N6 influenza
2019 Novel coronavirus
H10N8 influenza
H7N9 influenza
H5N1 influenza
SARS
Nipah virus
Hendra virus
Nipah virus
Enterovirus 71
Human monkeypox

Hepatitis C
vCJD
Lyme disease
Lassa fever

HIV

Zika virus

Newly emerging
Re-emerging/resurging
“Deliberately emerging”

January 2020

AS Fauci/NIAID
Novel Coronavirus: SARS-CoV-2
Timeline of Early Events in 2019-nCoV Epidemic

Dec. 31:
WHO alerted to cluster of pneumonia cases in Wuhan, China

Jan. 1:
Wuhan market suspected to be at center of outbreak closed

Jan. 9:
WHO announces that outbreak in Wuhan caused by a novel coronavirus (2019-nCoV)

Jan. 10:
Chinese release genome of 2019-nCoV

Jan. 11:
First death due to 2019-nCoV announced by Chinese authorities

Jan. 13:
First case outside of China reported in Thailand

Jan. 16:
Case of 2019-nCoV reported in Japan

Jan. 17:
CDC announces it will begin screening passengers at 3 US airports

Jan. 20:
Case of 2019-nCoV reported in Korea, 14 Chinese healthcare workers reported infected

Jan. 21:
Cases of 2019-nCoV reported in US and Taiwan

Jan. 22:
2 Cases of 2019-nCoV reported in Hong Kong and Macau

AS Fauci/NIAID

National Institute of Allergy and Infectious Diseases
NEWS

Chinese Researchers Reveal Draft Genome of Virus Implicated in Wuhan Pneumonia Outbreak

Jon Cohen
Drugmakers Rush to Develop Vaccines Against China Virus

- NIAID’s VRC collaborated with Moderna to design an mRNA candidate vaccine
- NIAID anticipates beginning a Phase 1 clinical trial within 3 months
Ongoing Ebola Outbreak in the Democratic Republic of the Congo

Aug. 2018-Jan. 21, 2020
Cumulative cases/deaths: 3,416/2,238
Ring Vaccination Used to Curb the Spread of Ebola in DRC Outbreak

- Ring vaccination: Vaccinate contacts, contacts of contacts, frontline workers

- As of January 20, 2020, 270,138 people have received the investigational rVSV-ZEBOV vaccine

Source: WHO
News Release

December 19, 2019

First FDA-Approved Vaccine for the Prevention of Ebola Virus Disease, Marking a Critical Milestone in Public Health Preparedness and Response
‘Against All Odds’: The Inside Story of How Scientists Across Three Continents Produced an Ebola Vaccine

By Helen Branswell
Experimental HIV Vaccine Regimen Ineffective in Preventing HIV

No Safety Concerns Found; NIH and Partners Discontinue Vaccinations

- NIAID stopped administration of vaccinations in its HVTN 702 clinical trial of an investigational HIV vaccine

- During an interim review, an independent DSMB found:
  - The regimen did not prevent HIV
  - No evidence of decreased or increased infection rates
  - Recommended that no further vaccination be administered
  - There are no concerns regarding participant safety
NIH Strategic Plan Details
Pathway to Achieving
Hepatitis B Cure

- **Strategic Priority 1:** Understand Hepatitis B Biology
- **Strategic Priority 2:** Develop Tools and Resources
- **Strategic Priority 3:** Create Strategies to Cure and Prevent Hepatitis B
EXECUTIVE ORDER
September 19, 2019

Executive Order on Modernizing Influenza Vaccines in the United States to Promote National Security and Public Health
Infectious Diseases Clinical Research Consortium Awards Announced

- The network will encompass NIAID’s Vaccine and Treatment Evaluation Units (VTEUs) and create a new consortium leadership group
NIAID’s New Infectious Diseases Clinical Research Consortium (IDCRC)

- Kaiser Permanente Washington Health Research Institute
- University of Washington
- Cincinnati Children’s Hospital Medical Center
- University of Rochester
- University of Maryland School of Medicine
- Vanderbilt University Medical Center
- Emory University
- Baylor College of Medicine
- Saint Louis University

The Vaccine and Treatment Evaluation Units (VTEUs), established in 1962, are part of the new NIAID IDCRC

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