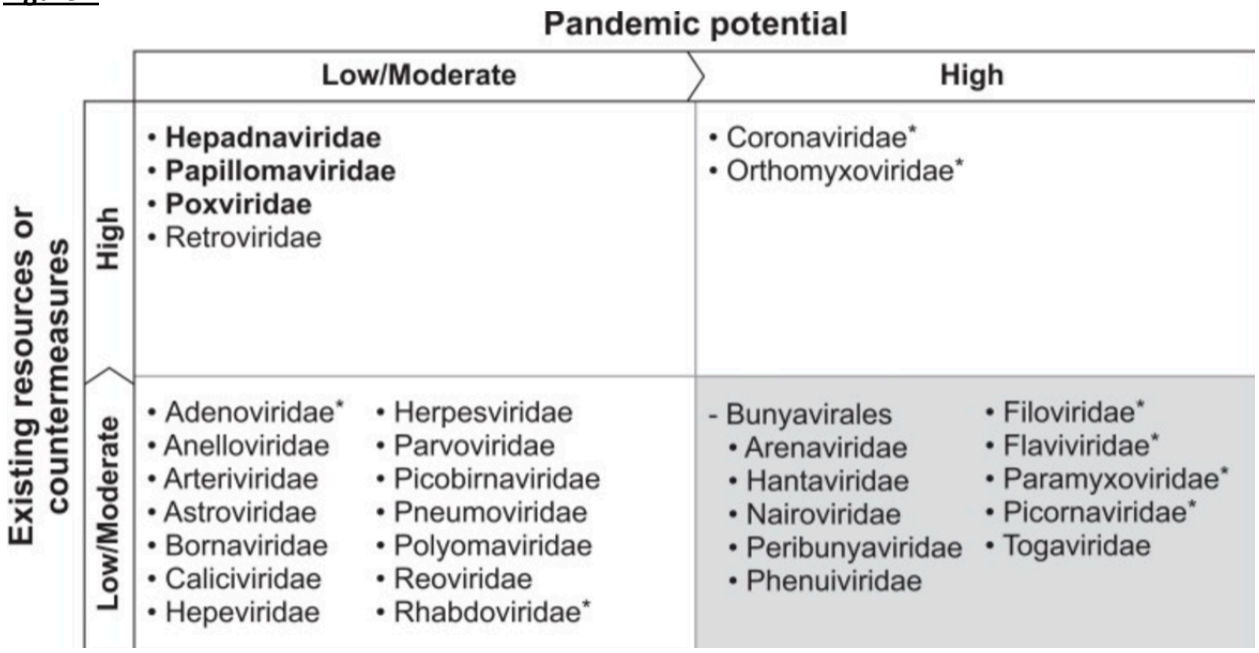
DMID's Scientific Priorities

- Maintain a robust portfolio of basic, translational, and clinical research in microbiology and infectious diseases
- Develop countermeasures to mitigate emerging infectious disease outbreaks and biodefense threats
- Support the development of vaccines, therapeutics, and diagnostics for tuberculosis
- Combat the health impact of antibacterial resistance
- Advance the development of universal influenza and coronavirus vaccines
- *Improve strategies for prevention and treatment of malaria*

NIAID Prototype Pathogen Approach for Vaccine and Monoclonal Antibody Development (Cassetti et al., 2022)**: More information: https://pmc.ncbi.nlm.nih.gov/articles/PMC9384504/**

Figure 2:



Priority Pathogen and Resistance Targets

- ESKAPE+ pathogens (Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumonia, Acinetobacter baumannii, Pseudomonas aeruginosa, Enterobacter spp, Escherichia coli), including genotypic resistance markers
- Mycobacterium tuberculosis
- Neisseria gonorrhea and antibiotic resistance markers
- Treponema pallidum
- Identification and genotypic resistance markers for Bacillus anthracis, Yersinia pestis, Francisella tularensis, Burkholderia spp, Botulinum toxin, including identifying and distinguishing relevant serotypes
- Lassa virus

- Nipah virus
- Rift Valley Fever virus
- Enterovirus D68 virus
- Novel coronaviruses
- Hepatitis C virus
- Filoviruses (Sudan ebolavirus, SEBOV; Marburg virus, MARV, Zaire ebolavirus, ZEBOV)
- Monkeypox virus (MPXV)
- Herpes simplex virus (HSV)
- Candida spp. and genotypic resistant markers
- Aspergillus fumigatus and genotypic resistant markers
- Coccidioides spp.
- Mucorales

BACTERIA

Urgent Threats

- *Acinetobacter baumannii**
- *Clostridioides difficile*
- *Neisseria gonorrhoeae*
- *Enterobacterales**

Serious Threats

1. Campylobacter
2. Enterococci*
3. Pseudomonas aeruginosa*
4. Nontyphoidal Salmonella
5. Salmonella serotype Typhi
6. Shigella
7. Staphylococcus aureus*
8. Streptococcus pneumoniae
9. Non-tubercular mycobacteria (NTM)

*ESKAPE Pathogens

FUNGI

Candida auris
Aspergillus fumigatus
Candida spp