COVID-19 Press Briefing

January 26, 2022
Daily Change in COVID-19 Cases, US
January 22, 2020 – January 24, 2022

TOTAL Cases Reported Since 1/22/20
71,818,876

NEW Cases Reported to CDC on 1/24/22
1,140,580

Change in 7-Day Case Average
-6.2%

Current 7-Day Case Average (1/18/22 - 1/24/22)
692,359

Prior 7-Day Case Average (1/11/22 - 1/17/22)
737,733
New Admissions of Patients with Confirmed COVID-19, US
August 1, 2020 – January 23, 2022

Patients Currently Hospitalized with COVID on 1/23/22
134,359

New Admissions on 1/23/22
16,238

Peak in New Admissions (1/12/22)
23,045

Change in 7-Day Average of New Admissions
-8.2%

Current 7-Day Average of New Admissions (1/17/22 - 1/23/22)
19,754

Prior 7-Day Average of New Admissions (1/10/22 - 1/16/22)
21,509
Daily Change in COVID-19 Deaths, US
January 22, 2020 – January 24, 2022

TOTAL Deaths Reported Since 1/22/2020
866,968

NEW Deaths Reported to CDC on 1/24/22
2,643

Change in 7-Day Death Average
+20.9%

Current 7-Day Death Average (1/18/22 - 1/24/22)
2,166

Prior 7-Day Death Average (1/11/22 - 1/17/22)
1,791

Forecasted New Deaths in the week ending 02/12/22
9,800 to 35,700
Cases, hospitalizations, and deaths during Omicron period compared with Delta period and Winter 2020–21

Source: CDC State Reported Data and Unified Hospital Dataset
Universal Coronavirus Vaccines — An Urgent Need

David M. Morens, M.D., Jeffery K. Taubenberger, M.D., Ph.D., and Anthony S. Fauci, M.D.
In the past 20 years, three coronaviruses have caused major disease outbreaks – **SARS, MERS, COVID-19**

Since September 2020, five SARS-CoV-2 **Variants of Concern** have emerged – alpha, beta, gamma, delta, omicron

Innovative approaches are needed to induce broad and durable protection against coronaviruses, known and unknown

**Pan-Coronavirus Vaccines**
Coronavirus Phylogenetic Tree

Human coronaviruses

Source: SM Gygli, PhD, NIAID. Based on 440 bp nucleotide sequences of RNA-dependent RNA polymerase.
Pan-SARS-CoV-2 Vaccine

WHO Variants of Concern:
- Alpha
- Beta
- Gamma
- Delta
- Omicron
Pan-Sarbecovirus Vaccine
NIAID Research on Pan-Coronavirus Vaccines

- NIAID has invested/awarded >$3.5 billion overall on coronavirus research since the COVID-19 pandemic began

- Coronavirus vaccine research (total so far): $1.4 billion
  - Substantial investment in pan-coronavirus vaccine research in intramural and extramural programs

- Sept. 2021-Jan. 2022 awards: $42.8 million in funding over 3 years, to 4 academic institutions, for research to develop vaccines to protect against multiple types of coronaviruses and viral variants

- Additional awards anticipated in fiscal year 2022
Ongoing Projects: 5 Examples of Promising Pan-Coronavirus Vaccine Candidates

A Platform Incorporating Trimeric Antigens into Self-assembling Nanoparticles Reveals SARS-CoV-2-spike Nanoparticles to Elicit Substantially Higher Neutralizing Responses than Spike Alone
B Zhang, PD Kwong et al.

Mosaic Nanoparticles Elicit Cross-Reactive Immune Responses to Zoonotic Coronaviruses in Mice
AA Cohen, PJ Bjorkman et al.

Neutralizing Antibody Vaccine for Pandemic and Pre-Emergent Coronaviruses
KO Saunders, BF Haynes et al.

A SARS-CoV-2 Ferritin Nanoparticle Vaccine Elicits Protective Immune Responses in Nonhuman Primates
MG Joyce, K Modjarrad et al.

Elicitation of Broadly Protective Sarcovirus Immunity by Receptor-Binding Domain Nanoparticle Vaccines
AC Walls, D Veesler et al.
Example of a Pan-Coronavirus Vaccine Concept

Nanoparticle with different spike protein fragments

Vaccine

Diverse antibody response

Source: Bjorkman et al. 2021 Science
Example of a Universal Beta-Coronavirus Vaccine Concept

Inactivated, whole virus vaccine consisting of SARS-CoV-2 and several different coronaviruses delivered by intranasal mist

Broad protection against human and animal beta-coronaviruses

Source: Taubenberger, et al. 2022 Unpublished
Key Points

- Pan-coronavirus vaccine candidates will take time to develop

- Our current vaccine regimens provide strong protection against severe COVID-19 and death

- Do not wait to receive your primary vaccine regimen or booster, if you are eligible