COVID-19 Impact: Vaccines, Variants, and More

This meeting will be recorded and will be available at www.fmda.org/journalclub.php
FMDA Journal Club

February 10, 2021
Diane Sanders-Cepeda, DO, CMD – Presenter
Agenda

• State of the State
• COVID Variants - What We Know
• Vaccination updates
• Clinical updates
• Open Discussion
COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Global Cases: 106,993,984

Global Deaths: 2,343,277

US State Level Deaths, Recovered:
- 45,140 deaths, 133,869 recovered, New York US
- 233,520 deaths, Brazil
- 168,432 deaths, Mexico
- 155,252 deaths, India
- 114,066 deaths, United Kingdom
- 92,002 deaths, Italy
- 468,217 deaths, United States of America

Cases by Country/Region/Sovereignty:
- 27,193,850 US
- 10,858,371 India
- 9,599,565 Brazil
- 3,983,756 United Kingdom
- 3,968,228 Russia
- 3,419,210 France
- 3,005,487 Spain
- 2,655,319 Italy
- 2,548,195 Turkey
- 2,305,470 Germany
- 2,166,904 Colombia
- 1,993,295 Argentina
- 1,946,751 Mexico
- 1,563,645 Poland

30 States have higher than recommended positivity.
Percentage of ED visits by syndrome in United States: COVID-19-Like Illness, Shortness of Breath, Pneumonia, and Influenza-Like Illness

- Coronavirus like illness (CLI) or a COVID-19 diagnostic code
- Influenza like illness (ILI without mention of specific influenza)
- Pneumonia
- Shortness of breath
Currently hospitalized per 1 million people

Data updated February 9, 2021

US Total
326,909,867
Total test results
26,968,049
Cases
79,179
Currently hospitalized
458,250
Deaths

February 1, 2021
It's Time: The COVID Tracking Project Will Soon Come to an End
Read the article →
In the **United States**, through February 9, Native Hawaiians/Pacific Islanders were most likely to have contracted COVID-19. Black/African American people were most likely to have died.

<table>
<thead>
<tr>
<th></th>
<th>Cases per 100,000 people</th>
<th>Deaths per 100,000 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Hawaiian/Pacific Islander</td>
<td>8,544</td>
<td>126</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>7,703</td>
<td>152</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>7,017</td>
<td>134</td>
</tr>
<tr>
<td>Black/African American</td>
<td>5,360</td>
<td>159</td>
</tr>
<tr>
<td>White</td>
<td>4,118</td>
<td>109</td>
</tr>
<tr>
<td>Asian</td>
<td>2,870</td>
<td>82</td>
</tr>
</tbody>
</table>

**Notes:** Nationwide, 51 of 56 states and territories report race/ethnicity information for cases and 51 of 56 report race/ethnicity for deaths. Graphic includes demographic data from all states and territories that report, using standard Census categories where possible, and scaled to the total US population for each Census category. Race categories may overlap with Hispanic/Latino ethnicity. Some rates are underestimated due to lack of reporting of race and ethnicity categories for COVID-19 cases and deaths.
Total Cases 1,790,743
Positive Residents 1,758,254
Resident Hospitalizations 74,884
Florida Resident Deaths 28,048
Non-Resident Deaths 478
FL Daily Positivity Rate

- 1/9: 10.72%
- 1/10: 10.94%
- 1/11: 10.96%
- 1/12: 10.48%
- 1/13: 8.86%
- 1/14: 8.76%
- 1/15: 9.35%
- 1/16: 9.39%
- 1/17: 9.19%
- 1/18: 10.93%
- 1/19: 12.63%
- 1/20: 8.74%
- 1/21: 6.66%
- 1/22: 8.40%
- 1/23: 9.71%
- 1/24: 9.31%
- 1/25: 10.34%
- 1/26: 7.80%
- 1/27: 14.63%
- 1/28: 6.70%
- 1/29: 5.61%
- 1/30: 8.50%
- 1/31: 8.39%
- 2/1: 7.83%
- 2/2: 8.77%
- 2/3: 5.79%
- 2/4: 6.25%
- 2/5: 6.80%
- 2/6: 7.31%
- 2/7: 7.93%
- 2/8: 6.93%
FL New Cases by Day

Day 1/9: 12,275
Day 1/10: 11,599
Day 1/11: 14,588
Day 1/12: 13,681
Day 1/13: 13,426
Day 1/14: 16,559
Day 1/15: 11,935
Day 1/16: 10,821
Day 1/17: 7,850
Day 1/18: 9,621
Day 1/19: 11,568
Day 1/20: 12,677
Day 1/21: 13,433
Day 1/22: 12,116
Day 1/23: 8,561
Day 1/24: 9,408
Day 1/25: 9,417
Day 1/26: 8,252
Day 1/27: 11,303
Day 1/28: 10,872
Day 1/29: 14,712
Day 1/30: 7,684
Day 1/31: 5,611
Day 2/1: 10,318
Day 2/2: 6,768
Day 2/3: 7,545
Day 2/4: 10,861
Day 2/5: 7,369
Day 2/6: 6,644
Day 2/7: 5,580
Day 2/8: 7,041
Less than 1% of America’s population lives in long-term care facilities, but as of February 4, 2021, this tiny fraction of the country accounts for 36% of US COVID-19 deaths.

**Cumulative**

<table>
<thead>
<tr>
<th>Total cases</th>
<th>Total deaths</th>
<th>Total number of facilities affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,276,030</td>
<td>161,933</td>
<td>32,130</td>
</tr>
</tbody>
</table>
COVID Variants
# US COVID-19 Cases Caused by Variants

Updated Feb. 9, 2021

<table>
<thead>
<tr>
<th>Variant</th>
<th>Reported Cases in US</th>
<th>Number of States Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1.1.7</td>
<td>932</td>
<td>34</td>
</tr>
<tr>
<td>B.1.351</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>P.1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
Emerging Variant Cases in the United States*†

Number of Cases

- **0 to 0**
- **1 to 50**
- **101 to 150**
- **201 to 250**

Filters

- Variant B.1.1.7

Territories: AS GU MH FM MP PW PR VI
## COVID Variants

<table>
<thead>
<tr>
<th>Lineage</th>
<th>Variant Name</th>
<th>Origin</th>
<th>Key Mutations</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1.1.7</td>
<td>501Y.V1 or 202012/01</td>
<td>U.K.; now in over 70 countries and 33 states in the US</td>
<td>N501Y, P681H, H69-V70 deletion; Y144/145 deletion;</td>
</tr>
<tr>
<td>B.1.351</td>
<td>501Y.V2</td>
<td>South Africia; now in 24 countries and 3 states in the US</td>
<td>N501Y, K417N, E484K</td>
</tr>
<tr>
<td>P.1</td>
<td>501Y.V3</td>
<td>Brazil; and in 2 states in the US</td>
<td>N501Y, K417T, E484K</td>
</tr>
<tr>
<td>B.1.427, B.1.429</td>
<td>CAL.20C</td>
<td>California</td>
<td>L452R</td>
</tr>
</tbody>
</table>

*B.1 lineage has the D614G mutation*
Reinfection & COVID Variants?

Those who had COVID-19 could get reinfected if the variants become dominant, Fauci says
Vaccination Updates
## VACCINE DEVELOPMENT

<table>
<thead>
<tr>
<th></th>
<th>Pfizer/BionNtech BT162b1 RNA-based</th>
<th>Moderana mRNA-1237</th>
<th>Johnson &amp; Johnson Ad26.COV2-S</th>
<th>Oxford/AstraZeneca AZD1222</th>
<th>Novavax NVX-CoV2373</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>mRNA</td>
<td>mRNA</td>
<td>Adenovirus-based</td>
<td>Adenovirus-based</td>
<td>Protein-based vaccine</td>
</tr>
<tr>
<td><strong>Dose(s)</strong></td>
<td>2 doses, 21 days apart</td>
<td>2 doses, 28 days apart</td>
<td>Single dose and 2 doses (57 days apart) are being studied</td>
<td>2 doses, 28 days apart</td>
<td>2 doses; 21 days apart</td>
</tr>
<tr>
<td><strong>EUA</strong></td>
<td>Approved</td>
<td>Approved</td>
<td>Submitted</td>
<td>Not approved</td>
<td>Not approved</td>
</tr>
<tr>
<td><strong>Efficacy</strong></td>
<td>95%</td>
<td>95%</td>
<td>66% at preventing mod to severe COVID; 85% overall vaccine efficacy –in preventing severe disease Single dose</td>
<td>70%</td>
<td>89.3%</td>
</tr>
<tr>
<td><strong>Availability</strong></td>
<td>Approved in the US in 2020</td>
<td>Approved in the US in Dec. 2020</td>
<td>Pending approvals</td>
<td>Authorized in Europe, and in other countries</td>
<td>Feb. or March 2021 in UK Q1/Q2 in the US</td>
</tr>
</tbody>
</table>
Vaccine’s not likely to be approved in the US

- Russia’s vaccine
  - Sputnik V
    - 91.4% efficacy
    - Adenovirus-based (2 doses)

- China’s vaccines
  - Sinopharm
    - 79% efficacy
    - inactivated SARS-CoV-2 virus (2 doses)
  - Sinovac Biotech
    - 50.38-91.25% efficacy
    - inactivated SARS-CoV-2 virus (2 doses)
  - CanSino Biologics
    - 65.7% efficacy;
    - viral vector, loading an antigen from SARS-COV-2 onto an adenovirus (1 dose)
Covid-19: South Africa pauses use of Oxford vaccine after study casts doubt on efficacy against variant

Elisabeth Mahase
COVID-19 Vaccinations in the United States

Overall US COVID-19 Vaccine Delivery and Administration; Maps, charts, and data provided by the CDC, updated daily by 8 pm ET.

Total Doses Delivered: 62,898,775
Total Doses Administered: 43,206,190
Number of People Receiving 1 or More Doses: 32,867,213
Number of People Receiving 2 Doses: 9,840,429

Total Doses Administered Reported to the CDC by State/Territory and for Selected Federal Entities per 100,000
# Federal Pharmacy Partnership for Long-Term Care (LTC) Program

Overall US COVID-19 Vaccine Distribution and Administration: Maps, charts, and data provided by the CDC, updated daily by 8 pm ET.

<table>
<thead>
<tr>
<th>Total Number of Doses Administered in Long-Term Care Facilities</th>
<th>Number of People with 1 or More Doses in Long-Term Care Facilities</th>
<th>Number of People with 2 Doses in Long-Term Care Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,015,224</td>
<td>3,810,039</td>
<td>1,183,401</td>
</tr>
</tbody>
</table>

---

**Total Doses Administered Reported to CDC by State/Territory, Federal Pharmacy Partnership for LTC Program**

[CDC Data as of: Feb 03 2021 6:00am ET | Posted: Feb 9 2021 1:41PM ET]
Data from 32,867,213 people with 1 or more doses administered. Race/Ethnicity was available for 17,861,863 (54.3%) people with 1 or more doses administered.

Data from 9,840,429 people with 2 doses administered. Race/Ethnicity was available for 5,110,687 (51.9%) people with 2 doses administered.
Age Groups of People with 1 or More Doses Administered:

Data from 32,867,213 people with 1 or more doses administered. Age was available for 30,283,200 (92%) people with 1 or more doses administered.

Age Groups of People with 2 Doses Administered:

Data from 9,840,429 people with 2 doses administered. Age was available for 9,000,949 (91%) people with 2 doses administered.
Among States Reporting COVID-19 Vaccinations by Age, the Majority of Older Adults Have Not Yet Received One or More Doses

Share of older state residents who have received at least one COVID-19 vaccine dose, as a share of the respective older population, as of 2/4/2021

**States reporting age 65 and older**

- West Virginia: 34% vaccinated, 66% not yet vaccinated
- North Carolina: 32% vaccinated, 68% not yet vaccinated
- Florida: 29% vaccinated, 71% not yet vaccinated
- Mississippi: 29% vaccinated, 72% not yet vaccinated
- Delaware: 21% vaccinated, 79% not yet vaccinated
- Texas: 20% vaccinated, 80% not yet vaccinated
- District of Columbia: 20% vaccinated, 80% not yet vaccinated
- Michigan: 22% vaccinated, 78% not yet vaccinated
- New Jersey: 21% vaccinated, 79% not yet vaccinated
- Wisconsin: 21% vaccinated, 79% not yet vaccinated
- Minnesota: 18% vaccinated, 82% not yet vaccinated
- Missouri: 18% vaccinated, 82% not yet vaccinated
- Kansas: 15% vaccinated, 85% not yet vaccinated
- Nebraska: 15% vaccinated, 85% not yet vaccinated
- Pennsylvania: 10% vaccinated, 90% not yet vaccinated

**States reporting age 60 and older**

- Alaska: 37% vaccinated, 63% not yet vaccinated
- Colorado*: 30% vaccinated, 70% not yet vaccinated
- Indiana*: 29% vaccinated, 71% not yet vaccinated
- Louisiana*: 25% vaccinated, 75% not yet vaccinated
- Virginia: 21% vaccinated, 79% not yet vaccinated
- Ohio*: 18% vaccinated, 82% not yet vaccinated
- Tennessee: 18% vaccinated, 82% not yet vaccinated
- South Dakota*: 16% vaccinated, 84% not yet vaccinated
- Maine*: 15% vaccinated, 85% not yet vaccinated
- Maryland: 15% vaccinated, 85% not yet vaccinated
- Oregon*: 11% vaccinated, 89% not yet vaccinated
- Vermont*: 11% vaccinated, 89% not yet vaccinated
- Rhode Island*: 9% vaccinated, 91% not yet vaccinated

**States reporting age 70 and older**

- Massachusetts*: 5% vaccinated, 95% not yet vaccinated

**States reporting age 65 and older**

- West Virginia: 34% vaccinated, 66% not yet vaccinated
- North Carolina: 32% vaccinated, 68% not yet vaccinated
- Florida: 29% vaccinated, 71% not yet vaccinated
- Mississippi: 29% vaccinated, 72% not yet vaccinated
- Delaware: 21% vaccinated, 79% not yet vaccinated
- Texas: 20% vaccinated, 80% not yet vaccinated
- District of Columbia: 20% vaccinated, 80% not yet vaccinated
- Michigan: 22% vaccinated, 78% not yet vaccinated
- New Jersey: 21% vaccinated, 79% not yet vaccinated
- Wisconsin: 21% vaccinated, 79% not yet vaccinated
- Minnesota: 18% vaccinated, 82% not yet vaccinated
- Missouri: 18% vaccinated, 82% not yet vaccinated
- Kansas: 15% vaccinated, 85% not yet vaccinated
- Nebraska: 15% vaccinated, 85% not yet vaccinated
- Pennsylvania: 10% vaccinated, 90% not yet vaccinated

**States reporting age 60 and older**

- Alaska: 37% vaccinated, 63% not yet vaccinated
- Colorado*: 30% vaccinated, 70% not yet vaccinated
- Indiana*: 29% vaccinated, 71% not yet vaccinated
- Louisiana*: 25% vaccinated, 75% not yet vaccinated
- Virginia: 21% vaccinated, 79% not yet vaccinated
- Ohio*: 18% vaccinated, 82% not yet vaccinated
- Tennessee: 18% vaccinated, 82% not yet vaccinated
- South Dakota*: 16% vaccinated, 84% not yet vaccinated
- Maine*: 15% vaccinated, 85% not yet vaccinated
- Maryland: 15% vaccinated, 85% not yet vaccinated
- Oregon*: 11% vaccinated, 89% not yet vaccinated
- Vermont*: 11% vaccinated, 89% not yet vaccinated
- Rhode Island*: 9% vaccinated, 91% not yet vaccinated

**States reporting age 70 and older**

- Massachusetts*: 5% vaccinated, 95% not yet vaccinated

**States reporting age 65 and older**

- West Virginia: 34% vaccinated, 66% not yet vaccinated
- North Carolina: 32% vaccinated, 68% not yet vaccinated
- Florida: 29% vaccinated, 71% not yet vaccinated
- Mississippi: 29% vaccinated, 72% not yet vaccinated
- Delaware: 21% vaccinated, 79% not yet vaccinated
- Texas: 20% vaccinated, 80% not yet vaccinated
- District of Columbia: 20% vaccinated, 80% not yet vaccinated
- Michigan: 22% vaccinated, 78% not yet vaccinated
- New Jersey: 21% vaccinated, 79% not yet vaccinated
- Wisconsin: 21% vaccinated, 79% not yet vaccinated
- Minnesota: 18% vaccinated, 82% not yet vaccinated
- Missouri: 18% vaccinated, 82% not yet vaccinated
- Kansas: 15% vaccinated, 85% not yet vaccinated
- Nebraska: 15% vaccinated, 85% not yet vaccinated
- Pennsylvania: 10% vaccinated, 90% not yet vaccinated

**States reporting age 60 and older**

- Alaska: 37% vaccinated, 63% not yet vaccinated
- Colorado*: 30% vaccinated, 70% not yet vaccinated
- Indiana*: 29% vaccinated, 71% not yet vaccinated
- Louisiana*: 25% vaccinated, 75% not yet vaccinated
- Virginia: 21% vaccinated, 79% not yet vaccinated
- Ohio*: 18% vaccinated, 82% not yet vaccinated
- Tennessee: 18% vaccinated, 82% not yet vaccinated
- South Dakota*: 16% vaccinated, 84% not yet vaccinated
- Maine*: 15% vaccinated, 85% not yet vaccinated
- Maryland: 15% vaccinated, 85% not yet vaccinated
- Oregon*: 11% vaccinated, 89% not yet vaccinated
- Vermont*: 11% vaccinated, 89% not yet vaccinated
- Rhode Island*: 9% vaccinated, 91% not yet vaccinated

**States reporting age 70 and older**

- Massachusetts*: 5% vaccinated, 95% not yet vaccinated

**Note:** As of February 1, 2021, these states have not expanded vaccine eligibility to adults 65 and older. For vaccinations, states vary in whether they report total people who have received at least one vaccine dose, people who have received one dose and people who have received two doses, or total vaccinations administered. Where possible, we report data for the total number of people who have received at least one vaccine dose. However, some states only report total vaccinations, meaning people who have received two doses are included in this data twice. States also vary in whether their age data include long-term care facility residents. See methods for more information.

What’s the state with the best Vaccination rates
The Key to West Virginia’s Vaccine Success

The more the state collaborates with those at the local, community level, the greater the vaccine uptake.

FEBRUARY 8, 2021

Christopher Martin
Professor at the West Virginia University School of Public Health
COVID-19: vaccine summary

Vaccination data through Feb 8, 2021 as of Feb 9, 2021 at 12:05 AM
Data in this report are provisional and subject to change.

Data in this summary pertain to COVID-19 vaccines approved by the U.S. Food and Drug Administration and have been issued an Emergency Use Authorization. These data summarize the number of people who have received either their first dose or have completed the series for a COVID-19 vaccine. A person can only be counted in one category, first dose or series complete. After individuals receive their second dose, they are moved from the first dose column to the series completed column.

### COVID-19 doses administered in Florida

<table>
<thead>
<tr>
<th>Doses administered</th>
<th>2,813,488</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of doses of the COVID-19 vaccine that have been administered in Florida.</td>
<td></td>
</tr>
</tbody>
</table>

### Persons vaccinated for COVID-19 in Florida

<table>
<thead>
<tr>
<th>Total people vaccinated</th>
<th>2,057,154</th>
</tr>
</thead>
<tbody>
<tr>
<td>First dose</td>
<td>1,300,820</td>
</tr>
<tr>
<td>Series completed</td>
<td>756,334</td>
</tr>
</tbody>
</table>
| **First dose**: received their first dose of the COVID-19 vaccine.  
**Series complete**: received all recommended doses of the COVID-19 vaccine to be considered fully immunized. |

### Demographic summary

<table>
<thead>
<tr>
<th>Age group</th>
<th>First dose</th>
<th>Series complete</th>
<th>Total people vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-24 years</td>
<td>13,255</td>
<td>13,699</td>
<td>26,954</td>
</tr>
<tr>
<td>25-34 years</td>
<td>34,295</td>
<td>56,097</td>
<td>90,392</td>
</tr>
<tr>
<td>35-44 years</td>
<td>43,073</td>
<td>68,407</td>
<td>111,480</td>
</tr>
<tr>
<td>45-54 years</td>
<td>55,681</td>
<td>78,662</td>
<td>134,343</td>
</tr>
<tr>
<td>55-64 years</td>
<td>90,016</td>
<td>91,192</td>
<td>181,208</td>
</tr>
<tr>
<td>65-74 years</td>
<td>593,397</td>
<td>244,975</td>
<td>838,372</td>
</tr>
<tr>
<td>75-84 years</td>
<td>344,306</td>
<td>141,707</td>
<td>486,013</td>
</tr>
<tr>
<td>85+ years</td>
<td>126,797</td>
<td>61,595</td>
<td>188,392</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>First dose</th>
<th>Series complete</th>
<th>Total people vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaskan</td>
<td>4,442</td>
<td>2,403</td>
<td>6,845</td>
</tr>
<tr>
<td>Black</td>
<td>67,594</td>
<td>38,004</td>
<td>105,598</td>
</tr>
<tr>
<td>Other</td>
<td>142,494</td>
<td>138,923</td>
<td>281,417</td>
</tr>
<tr>
<td>Unknown</td>
<td>263,212</td>
<td>82,360</td>
<td>345,572</td>
</tr>
<tr>
<td>White</td>
<td>823,078</td>
<td>494,644</td>
<td>1,317,722</td>
</tr>
</tbody>
</table>

**Other race** includes Asian, native Hawaiian/Pacific Islander, or other.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>First dose</th>
<th>Series complete</th>
<th>Total people vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>92,420</td>
<td>78,430</td>
<td>170,850</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>582,027</td>
<td>396,083</td>
<td>978,110</td>
</tr>
<tr>
<td>Unknown</td>
<td>626,373</td>
<td>281,821</td>
<td>908,194</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>First dose</th>
<th>Series complete</th>
<th>Total people vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>741,774</td>
<td>448,514</td>
<td>1,190,288</td>
</tr>
<tr>
<td>Male</td>
<td>552,177</td>
<td>306,513</td>
<td>858,690</td>
</tr>
<tr>
<td>Unknown</td>
<td>6,869</td>
<td>1,307</td>
<td>8,176</td>
</tr>
</tbody>
</table>
Cumulative COVID-19 vaccination doses administered per 100 people

This is counted as a single dose, and may not equal the total number of people vaccinated, depending on the specific dose regime (e.g., people receive multiple doses).

Source: Official data collated by Our World in Data - Last updated 9 February, 09:55 (London time)
NFL Offers All 30 Stadiums For Use As Coronavirus Vaccine Sites

February 5, 2021 - 3:27 PM ET

BILL CHAPPELL
Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination
Clinical Updates
FDA NEWS RELEASE

Coronavirus (COVID-19) Update: February 5, 2021

For Immediate Release: February 05, 2021
REGN-COV2, a Neutralizing Antibody Cocktail, in Outpatients with Covid-19

Antibody Status and Incidence of SARS-CoV-2 Infection in Health Care Workers

Open Discussion
This meeting has been recorded and will be available at www.fmda.org/journalclub.php