Supplemental Online Content

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**eFigure 1.** Proportion of Variants Circulating in the US from April 11, 2021, through April 24, 2021, Based on SARS-CoV-2 Genomes Sequenced During that Time Period

**eAppendix 1.** Case Data by State Websites

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**eAppendix 3.** List of Supplemental Figures/Tables Containing Case Data

**eAppendix 4.** Demographic Data by Age and by State Websites

This supplemental material has been provided by the authors to give readers additional information about their work.
eFigure 1. Proportion of Variants Circulating in the US from April 11, 2021, through April 24, 2021, Based on SARS-CoV-2 Genomes Sequenced During that Time Period

Source: https://covid.cdc.gov/covid-data-tracker/#variant-proportions
eAppendix1. Case Data by State Websites

(i) Alaska: https://experience.arcgis.com/experience/2d19dc2b5c7e4b399ff6495a8950493d/ [Retrieved Nov. 1, 2020]
(ii) Colorado: https://covid19.colorado.gov/data [Retrieved Oct. 23, 2020]
(iii) Michigan: https://www.mistartmap.info/compare/age-group [Retrieved Nov. 18, 2020]
(iv) Montana: https://dphhs.mt.gov/publichealth/cdepi/diseases/coronavirusmt/demographics [Retrieved Oct. 24, 2020]
(v) Nevada: https://nvhealthresponse.nv.gov [Retrieved Oct. 31, 2020]
(vi) New Mexico: https://cvprovider.nmhealth.org/public-dashboard.html# [Retrieved Oct. 24, 2020]
(vii) North Dakota: https://www.health.nd.gov/diseases-conditions/coronavirus/north-dakota-coronavirus-cases [Retrieved October 24, 2020]
(viii) Oregon: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19CaseDemographicsandDiseaseSeverityStatewide/DemographicData [Retrieved Oct. 31, 2020]
(ix) Pennsylvania: https://experience.arcgis.com/experience/ed2def13f9b045eda9f7d22dbc9b500e [Retrieved Oct. 31, 2020]
(x) South Carolina: https://scdhec.gov/covid19/south-carolina-county-level-data-covid-19 [Retrieved May 15, 2021]
(xi) South Dakota: https://doh.sd.gov/news/coronavirus.aspx [Retrieved Oct. 24, 2020]
(xii) Tennessee: https://www.tn.gov/content/tn/health/cedep/ncoiv/data.html [Retrieved Nov. 12, 2020]
(xiii) Wisconsin: https://www.dhs.wisconsin.gov/covid-19/cases.htm#by%20age [Retrieved Oct. 24, 2020]
(xiv) Alabama: https://bamatracker.com/chart/caseages [Retrieved Nov. 14, 2020]
(xv) Florida: https://floridahealthcovid19.gov/ [Retrieved November 13, 2020]
(xvi) Oklahoma: https://coronavirus.health.ok.gov/sites/g/files/gmc786/f/2020.10.23_weekly_epi_report.pdf [Retrieved Oct. 23, 2020]
(xvii) Rhode Island: https://ri-department-of-health-covid-19-case-data-rihealth.hub.arcgis.com/#age [Retrieved October 25, 2020]
(xviii) Minnesota: https://www.health.state.mn.us/diseases/coronavirus/situation.html#age [Retrieved Oct. 24, 2020]
(xix) Missouri: https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/data/public-health/demographics.php [Retrieved Oct. 24, 2020]

Since the data on the websites above are updated on a daily basis, we are including below, in the Supplemental Tables/Figures, the data as they appeared on the websites when we accessed them. These provide the numbers we used in our calculations.
eAppendix 2. *New York Times* Websites Indicating Surges by State

https://www.nytimes.com/interactive/2021/us/alaska-covid-cases.html
https://www.nytimes.com/interactive/2021/us/colorado-covid-cases.html
https://www.nytimes.com/interactive/2021/us/michigan-covid-cases.html
https://www.nytimes.com/interactive/2021/us/montana-covid-cases.html
https://www.nytimes.com/interactive/2021/us/nevada-covid-cases.html
https://www.nytimes.com/interactive/2021/us/new-mexico-covid-cases.html
https://www.nytimes.com/interactive/2021/us/north-dakota-covid-cases.html
https://www.nytimes.com/interactive/2021/us/oregon-covid-cases.html
https://www.nytimes.com/interactive/2021/us/pennsylvania-covid-cases.html
https://www.nytimes.com/interactive/2021/us/south-carolina-covid-cases.html
https://www.nytimes.com/interactive/2020/us/south-dakota-coronavirus-cases.html
https://www.nytimes.com/interactive/2020/us/tennessee-coronavirus-cases.html
https://www.nytimes.com/interactive/2021/us/wisconsin-covid-cases.html
https://www.nytimes.com/interactive/2021/us/alabama-covid-cases.html
https://www.nytimes.com/interactive/2020/us/florida-coronavirus-cases.html
https://www.nytimes.com/interactive/2021/us/oklahoma-covid-cases.html
https://www.nytimes.com/interactive/2021/us/rhode-island-covid-cases.html
https://www.nytimes.com/interactive/2021/us/minnesota-covid-cases.html
https://www.nytimes.com/interactive/2020/us/missouri-coronavirus-cases.html

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eAppendix 3. List of Supplemental Figures/Tables Containing Case Data

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2) eTable B. Colorado COVID-19 Cases by Age (as of Oct. 22, 2020)
3) eFigure C. Michigan COVID-19 Cases by Age (as of Nov. 17, 2020)
4) eTable D. Montana COVID-19 Cases by Age (as of Oct. 23, 2020)
5) eFigure E. Nevada COVID-19 Cases by Age (as of October 30, 2020)
6) eTable F. New Mexico COVID-19 Cases by Age (as of Oct. 23, 2020)
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12) eTable L. Tennessee COVID-19 Cases by Age (as of November 11, 2020)
13) eFigure M. Wisconsin COVID-19 Cases by Age (as of Oct. 23, 2020)
14) eTable/Figure N. Alabama COVID-19 Cases by Age (as of November 13, 2020)
15) eTable/Figure O. Florida COVID-19 Cases by Age (through November 12, 2020)
16) eTable/Figure P. Oklahoma COVID-19 Cases by Age (as of October 22, 2020)
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18) eTable R. Minnesota COVID-19 Cases by Age (as of Oct. 23, 2020)
19) eTable S. Missouri COVID-19 Cases by Age (as of Oct. 23, 2020)
eFigure A. Alaska COVID-19 Cases by Age (as of October 31, 2020)

Source: Alaska Department of Health and Social Services Coronavirus Response Hub, AK COVID-19 Cases Dashboard

https://experience.arcgis.com/experience/2d19dc2b5c7e4b399ff6495a8950493d/
eTable B. Colorado COVID-19 Cases by Age (as of Oct. 22, 2020)

| Age  | Proportion of Cases | Total Case Count |
|------|---------------------|------------------|
| 0-9  | 0.038               | 3480             |
| 10-19| 0.108               | 9890             |
| 20-29| 0.223               | 20421            |
| 30-39| 0.175               | 16025            |
| 40-49| 0.154               | 14102            |
| 50-59| 0.133               | 12179            |
| 60-69| 0.085               | 7784             |
| 70-79| 0.046               | 4212             |
| 80+  | 0.038               | 3480             |

Total cumulative cases: 91,572

Source: Colorado Department of Public Health and Environment, "CDPHE COVID19 State-Level Expanded Case Data" (as of 10/22/2020)
https://covid19.colorado.gov/data
**eFigure C. Michigan COVID-19 Cases by Age (as of Nov. 17, 2020)**

Source: MI Safe Start Map, University of Michigan

[https://www.mistartmap.info/compare/age-group](https://www.mistartmap.info/compare/age-group)

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eTable D. Montana COVID-19 Cases by Age (as of Oct. 23, 2020)

| Age Group | Number of Cases (percent of total) |
|-----------|----------------------------------|
| 0-9 years | 1,148 (4%)                        |
| 10-19 years | 3,001 (11%)                     |
| 20-29 years | 5,452 (21%)                     |
| 30-39 years | 4,263 (16%)                     |
| 40-49 years | 3,514 (13%)                     |
| 50-59 years | 3,457 (13%)                     |
| 60-69 years | 2,883 (11%)                     |
| 70-79 years | 1,714 (6%)                      |
| 80-89 years | 796 (3%)                       |
| 90-99 years | 257 (1%)                       |
| 100+ | 18 (<1%)                        |

Total Cases: 26,503

Source: Montana Department of Public Health and Human Services
https://dphhs.mt.gov/publichealth/cdepi/diseases/coronavirusmt/demographics
eFigure E. Nevada COVID-19 Cases by Age (as of October 30, 2020)

Source: Nevada Department of Health
https://nvhealthresponse.nv.gov

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eTable F. New Mexico COVID-19 Cases by Age (as of 10/23/2020)

| Age | Number of Cases |
|-----|----------------|
| 0-9 | 2120           |
| 10-19 | 4513         |
| 20-29 | 7987         |
| 30-39 | 7290         |
| 40-49 | 6145         |
| 50-59 | 5339         |
| 60-69 | 3594         |
| 70-79 | 1810         |
| 80-89 | 975          |
| 90+  | 347          |

Total: 4012

Source: New Mexico Department of Health
https://cvprovider.nmhealth.org/public-dashboard.html#
### eTable G. North Dakota COVID-19 Cases by Age (as of October 23, 2020)

| Age  | Total Cases |
|------|-------------|
| 0-9  | 1549        |
| 10-19| 4658        |
| 20-29| 8814        |
| 30-39| 5932        |
| 40-49| 4486        |
| 50-59| 4292        |
| 60-69| 3490        |
| 70-79| 1859        |
| 80+  | 1794        |
| Total| 35,080      |

Source: North Dakota Department of Health
[https://www.health.nd.gov/diseases-conditions/coronavirus/north-dakota-coronavirus-cases](https://www.health.nd.gov/diseases-conditions/coronavirus/north-dakota-coronavirus-cases)
### eTable/Figure H. Oregon COVID-19 Cases by Age (as of October 30, 2020)

Source: Oregon Health Authority (OHA) and the OHA Public Health Division
[https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19CaseDemographicsandDiseaseSeverityStatewide/DemographicData](https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19CaseDemographicsandDiseaseSeverityStatewide/DemographicData)
Total cases 209,822.
eFigure I. Pennsylvania COVID-19 Cases by Age (as of October 30, 2020)
Source: Pennsylvania Department of Health, https://experience.arcgis.com/experience/ed2def13f9b045eda9f7d22dbc9b500e

Total cases: 17,892
eFigure J. South Carolina COVID-19 Cases by Age (as of Dec. 5, 2020)
Source: South Carolina Department of Health and Environmental Control
https://scdhec.gov/covid19/south-carolina-county-level-data-covid-19

Total cases: 37,262
eFigure K.  South Dakota COVID-19 Cases by Age (as of Oct. 23, 2020)
Source: South Dakota Department of health
https://doh.sd.gov/news/coronavirus.aspx

eTable L. Tennessee COVID-19 Cases by Age (as of November 11, 2020)

| Age  | Total Cases |
|------|-------------|
| 0-10 | 14,363      |
| 11-20| 38,925      |
| 21-30| 57,829      |
| 31-40| 46,794      |
| 41-50| 43,426      |
| 51-60| 39,243      |
| 61-70| 27,287      |
| 71-80| 16,316      |
| 81+  | 8,801       |
| Pending | 397       |
| Total | 293,381     |

Source: Tennessee Department of Health, “Age Dataset” in https://www.tn.gov/health/cedep/ncov/data/downloadable-datasets.html
eFigure M. Wisconsin COVID-19 Cases by Age (as of Oct. 23, 2020)

Source: Wisconsin Department of Health Services

https://www.dhs.wisconsin.gov/covid-19/cases.htm#by%20age
eTable/Figure N. Alabama COVID-19 Cases by Age (as of November 13, 2020)

| Age  | Cumulative Cases |
|------|------------------|
| 0-4  | 3,519            |
| 5-17 | 15,316           |
| 18-24| 25,413           |
| 25-49| 68,497           |
| 50-64| 37,344           |
| 65+  | 30,186           |

Source: Alabama Department of Public Health COVID-19 Dashboard Hub
https://bamatracker.com/chart/caseages
eTable/Figure O. Florida COVID-19 Cases by Age (through November 12, 2020)

COVID-19: characteristics of 858,585 Florida resident cases
Data through Nov 12, 2020 verified as of Nov 13, 2020 at 09:25 AM
Data in this report are provisional and subject to change.

| Age group   | Cases | Hospitalizations | Deaths |
|-------------|-------|------------------|--------|
| 0-4 years   | 14,429| 2%               | 1%     |
| 5-14 years  | 39,056| 5%               | 1%     |
| 15-24 years | 140,515| 16%             | 3%     |
| 25-34 years | 156,421| 18%             | 6%     |
| 35-44 years | 135,609| 16%             | 8%     |
| 45-54 years | 133,416| 16%             | 12%    |
| 55-64 years | 111,472| 13%             | 17%    |
| 65-74 years | 67,147 | 8%               | 20%    |
| 75-84 years | 38,283 | 4%               | 19%    |
| 85+ years   | 21,217 | 2%               | 13%    |
| Unknown     | 1,020  | 0%               | 0%     |

| Gender      | Cases |
|-------------|-------|
| Female      | 441,75|
| Male        | 412,38|
| Unknown     | 4,44  |

Total: 858,585

Source: Florida Department of Health, [https://floridahealthcovid19.gov/](https://floridahealthcovid19.gov/)
eTable/Figure P. Oklahoma COVID-19 Cases by Age (as of Oct. 22, 2020)

| Age group | Cases count (%) | Deaths count (%) | Cumulative Incidence Rate | Cumulative Mortality Rate |
|-----------|-----------------|------------------|---------------------------|--------------------------|
| Oklahoma  | 112,483         | 1221             | 2,852.7                   | 31.0                     |
| Gender    |                 |                  |                           |                          |
| Male      | 53,835 (47.9)   | 680 (55.7)       | 2,756.5                   | 34.8                     |
| Female    | 58,648 (52.1)   | 541 (44.3)       | 2,947.1                   | 27.2                     |
| Age group |                 |                  |                           |                          |
| Under 1-4 | 2,126 (1.9)     | 0 (0.0)          | 816.3                     | 0.0                      |
| 5-14      | 6,392 (5.7)     | 1 (0.1)          | 1,188.3                   | 0.2                      |
| 15-24     | 22,499 (20.0)   | 2 (0.2)          | 4,183.3                   | 0.4                      |
| 25-34     | 19,221 (17.1)   | 11 (0.9)         | 3,538.4                   | 2.0                      |
| 35-44     | 17,855 (15.9)   | 19 (1.6)         | 3,641.0                   | 3.9                      |
| 45-54     | 15,456 (13.7)   | 56 (4.6)         | 3,357.7                   | 12.2                     |
| 55-64     | 13,080 (11.6)   | 150 (12.3)       | 2,650.8                   | 30.4                     |
| 65-74     | 8,698 (7.7)     | 324 (26.5)       | 2,425.2                   | 90.3                     |
| 75-84     | 4,771 (4.2)     | 333 (27.3)       | 2,541.7                   | 177.4                    |
| 85+       | 2,384 (2.1)     | 325 (26.6)       | 3,257.0                   | 444.0                    |

Source: Oklahoma State Department of Health
[https://coronavirus.health.ok.gov/sites/g/files/gmc786/f/2020.10.23_weekly_epi_report.pdf](https://coronavirus.health.ok.gov/sites/g/files/gmc786/f/2020.10.23_weekly_epi_report.pdf)
eTable Q. Rhode Island COVID-19 Cases by Age (as of October 24, 2020)

| Age  | Cumulative Cases |
|------|------------------|
| 0-4  | 480              |
| 5-9  | 531              |
| 10-14| 656              |
| 15-18| 1174             |
| 19-24| 3522             |
| 25-29| 2655             |
| 30-39| 4658             |
| 40-49| 4125             |
| 50-59| 4175             |
| 60-69| 2880             |
| 70-79| 1773             |
| 80+  | 2364             |

Total cases 28,993

Source: Rhode Island Department of Health (RIDOH) SalesForce COVID-19 Case Dataset
https://ri-department-of-health-covid-19-case-data-rihealth.hub.arcgis.com/#age
### eTable R. Minnesota COVID-19 Cases by Age (as of Oct. 23, 2020)

| Age Group   | Number of Cases |
|-------------|-----------------|
| 0-4 years   | 2,536           |
| 5-9 years   | 2,624           |
| 10-14 years | 3,988           |
| 15-19 years | 11,769          |
| 20-24 years | 16,429          |
| 25-29 years | 12,611          |
| 30-34 years | 11,466          |
| 35-39 years | 10,447          |
| 40-44 years | 9,371           |
| 45-49 years | 8,916           |
| 50-54 years | 8,893           |
| 55-59 years | 8,242           |
| 60-64 years | 6,536           |
| 65-69 years | 4,415           |
| 70-74 years | 3,393           |
| 75-79 years | 2,561           |
| 80-84 years | 2,066           |
| 85-89 years | 1,754           |
| 90-94 years | 1,209           |
| 95-99 years | 524             |
| 100+ years  | 95              |
| Unknown/missing | 18           |

Total: 129,863

Source: [https://www.health.state.mn.us/diseases/coronavirus/situation.html#ageg1](https://www.health.state.mn.us/diseases/coronavirus/situation.html#ageg1)
### eTable S. Missouri COVID-19 Cases by Age (as of Oct. 23, 2020)

| Age | Missouri Number of Cases |
|-----|--------------------------|
| 0-9 | 3054                     |
| 10-19 | 13637                   |
| 20   | 3596                     |
| 21   | 3512                     |
| 22   | 2831                     |
| 23   | 2655                     |
| 24   | 2403                     |
| 25   | 2316                     |
| 26   | 2260                     |
| 27   | 2243                     |
| 28   | 2181                     |
| 29   | 2114                     |
| 30   | 2006                     |
| 31   | 1942                     |
| 32   | 1893                     |
| 33   | 1762                     |
| 34   | 1769                     |
| 35   | 1761                     |
| 36   | 1659                     |
| 37   | 1761                     |
| 38   | 1736                     |
| 39   | 1761                     |
| 40   | 1752                     |
| 41   | 1554                     |
| 42   | 1589                     |
| 43   | 1659                     |
| 44   | 1579                     |
| 45   | 1654                     |
| 46   | 1556                     |
| 47   | 1620                     |
| 48   | 1678                     |
| 49   | 1783                     |
| 50   | 1686                     |
| 51   | 1704                     |
| 52   | 1616                     |
| Age Group | Cases |
|-----------|-------|
| 53        | 1619  |
| 54        | 1579  |
| 55        | 1655  |
| 56        | 1633  |
| 57        | 1677  |
| 58        | 1619  |
| 59        | 1608  |
| 60        | 1519  |
| 61        | 1477  |
| 62        | 1361  |
| 63        | 1394  |
| 64        | 1308  |
| 65        | 1188  |
| 66        | 1100  |
| 67        | 1028  |
| 68        | 1031  |
| 69        | 976   |
| 70        | 950   |
| 71        | 886   |
| 72        | 908   |
| 73        | 844   |
| 74        | 731   |
| 75        | 707   |
| 76        | 679   |
| 77        | 746   |
| 78        | 627   |
| 79        | 574   |
| 80-84     | 2410  |
| 85-89     | 1918  |
| 90+       | 1975  |
| Unknown   | 289   |

Total cases: 120,298

Source: Missouri Department of Health and Senior Services
https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/cases-by-age.php

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eAppendix 4. Demographic Data by Age and by State Websites

(i) Alaska: https://live.laborstats.alaska.gov/pop/
(ii) Colorado: Colorado State Demography Office, Colorado Department of Local Affairs, https://demography.dola.colorado.gov/population/data/sya-regions/
(iii) Michigan: https://censusreporter.org/profiles/04000US26-michigan/
(iv) Montana: https://censusreporter.org/profiles/04000US30-montana/
(v) Nevada: https://censusreporter.org/profiles/04000US32-nevada/
(vi) New Mexico: https://censusreporter.org/profiles/04000US35-michigan/
(vii) North Dakota: https://censusreporter.org/profiles/04000US38-north-dakota/
(viii) Oregon: https://censusreporter.org/profiles/04000US41-oregon/
(ix) Pennsylvania: https://censusreporter.org/profiles/04000US42-pennsylvania/
(x) South Carolina https://censusreporter.org/profiles/04000US45-south-carolina/
(xi) South Dakota: https://www.sdstate.edu/sociology-rural-studies/census-data-center/population-change
(xii) Tennessee: https://www.tn.gov/content/dam/tn/health/documents/population/TN-Population-by-AgeGrp-Sex-Race-Ethnicity-2019.pdf
(xiii) Wisconsin: https://censusreporter.org/profiles/04000US55-wisconsin/
(xiv) Alabama: https://censusreporter.org/profiles/04000US01-alabama/
(xv) Florida: http://edr.state.fl.us/Content/populationdemographics/data/Pop_Census_Day.pdf
(xvi) Oklahoma: https://censusreporter.org/profiles/04000US40-oklahoma/
(xvii) Rhode Island: https://censusreporter.org/profiles/04000US44-rhode-island/
(xviii) Minnesota: https://censusreporter.org/profiles/04000US27-minnesota/
(xix) Missouri: https://healthapps.dhss.mo.gov/MoPhims/QueryBuilder?qbc=PNM&q=1&m=1