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"Strategic Advice in an Era of Unprecedented Change"

Covid-19 Report

Issue # 252

January 5, 2021

Covid-19 Highlights

When We Might Anticipate Vaccinations

- **In today's report, we update our illustration of when Americans might expect to receive their initial vaccination**. The initial ramp-up of vaccinations has been slower than anticipated - seemingly due to infrastructure challenges at the local level, rather than production or availability issues as feared. Reports suggest that these initial delays are beginning to be addressed and that we should see accelerating vaccinations in the near-term
- The vaccination timetable and thus, our illustration is sensitive to myriad factors: when specific vaccines will be approved and available; how quickly the initial vaccination process can be ramped-up; how quickly the subsequent distribution and administration can occur; how many people desire to be vaccinated, etc.
- **Based on this modeling - as well as certain assumptions about additional vaccine approval (i.e., J&J and AstraZeneca in the first quarter of 2021), the realization of specific milestones could be as follows:**
- **Completion of initial dose vaccination of:**
  - **Phase 1a (medical professionals and long-term care residents) - another 1.5-6 weeks**
  - **Phase 1b (front line essential workers, persons 75 & older) - between March 6 & April 8**
  - **Phase 1c (other essential workers, persons 65-74; persons 16 & older with at-risk medical conditions) - between May 2 & June 7**
  - **80% of all adults & children - between May 29 & July 5**

Hospital Resource Demands

- **The number of Hospitalized Covid-19 patients continue to rise nearly every day**. Yesterday, nearly 41% of all inpatient beds in the US were occupied by a Covid-19 patient. **This problem is especially acute in the Southwest (Arizona, California and Nevada), with Connecticut, Georgia and New York also of concern.**
- **Now thirteen weeks into the 2020/21 flu season, flu visits are down sharply from where they were during each of the past 5 flu seasons - for the most recent week, visits were 5x higher last season than this season.**

Deaths With the Coronavirus

- The average number of deaths reported over the past seven days is on par with the comparable seven-day period two weeks ago (pre-Christmas). **Tragically, the US ranks 13th in the world in deaths with coronavirus per capita; however, the US ranks 100th in deaths with coronavirus per detected case**

Newly-detected Cases And Estimated True Infections

- **The infection-estimate models we track, Youyang Gu and the Yale School of Public Health - suggest that true infections have been on the rise in the US since mid-December**
- **Newly detected cases per capita in the US, however, appear to have plateaued over the past few days - and at a rate comparable to the pre-Christmas peak.** Arizona's rate is accelerating, however, while Florida, Georgia and New York's rates are increasing at a slower rate. California's rate appears to have stabilized

Vaccine Milestone Illustration

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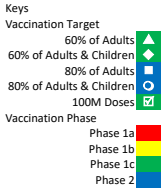
The slow ramp-up in initial vaccinations has been a concern. This illustration suggests that Phase 1a could take another 2-6 weeks. Phase 2 could begin as early as May 2 or as late as June 7

When each American will have access to an initial vaccine dose depends a myriad factors. Here we illustrate the impact of the pace of initial ramp-up, pace of dose administration and whether children are included



"Ramp-up" refers to how long it takes before the initial vaccination process hits full stride: Slow = January 3; Moderate = January 15; Fast = January 5

"Distribution" refers to how quickly doses will be administered once full-stride is reached: Slow – 300k doses/vaccine/day; Moderate = 400 doses/vaccine/day; Fast = 500 doses/vaccine/day

This chart is for illustration purposes only. The actual dates of specific milestones is dependent on several factors, which cannot be reasonably predicted at this time

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Vaccine Schedule - US

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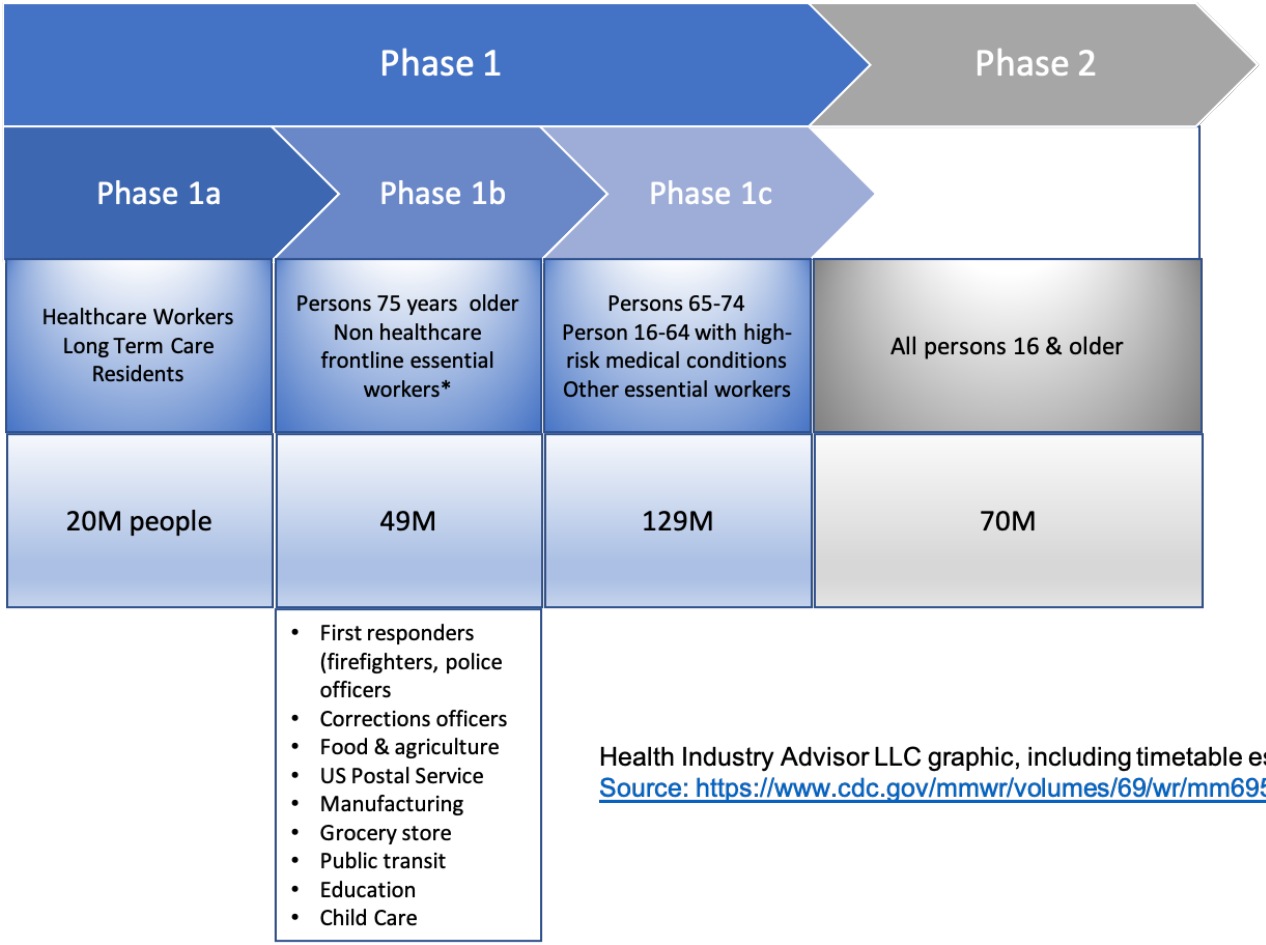
The CDC has issued guidelines for which groups should receive priority during the vaccine roll-out. These guidelines are subject to modification at the state-level



Health Industry Advisor LLC graphic, including timetable estimates
Source: https://www.cdc.gov/mmwr/volumes/69/wr/mm695152e2.htm

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Two Models of Estimated Daily Infections

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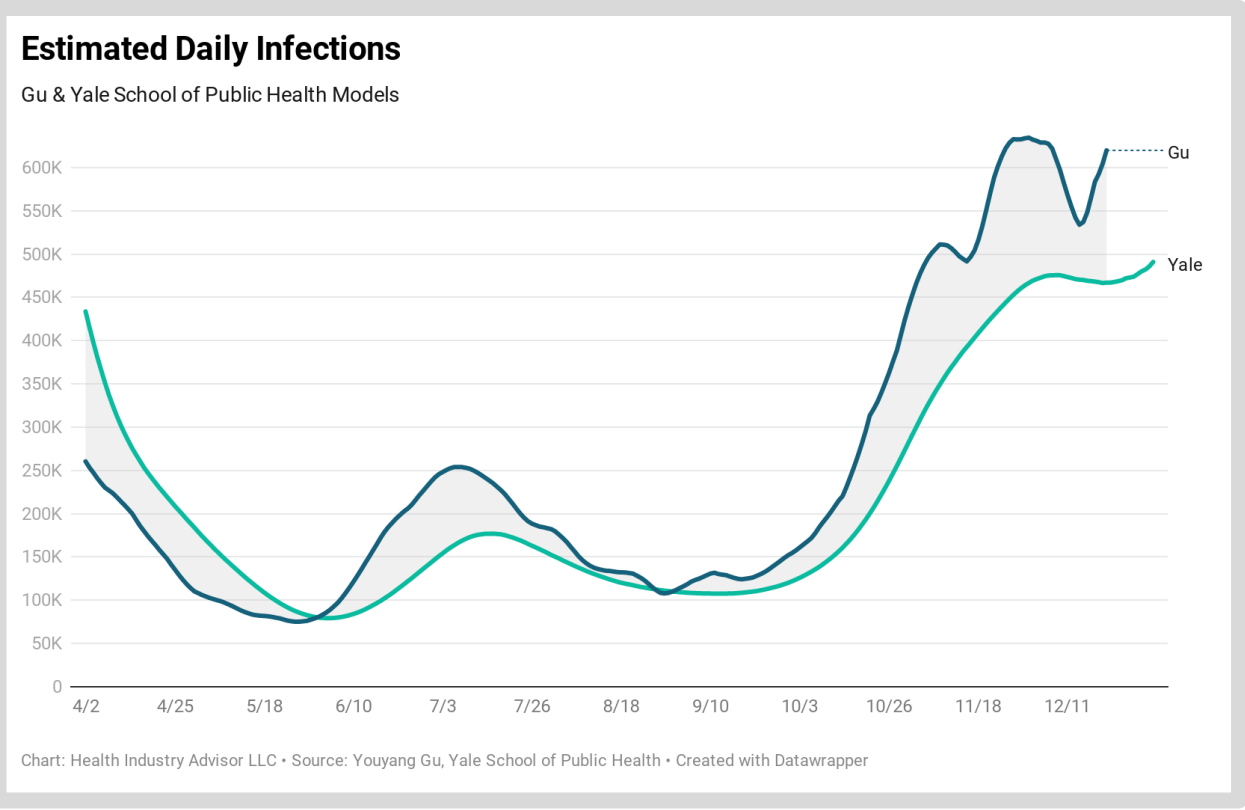
Models from both Youyang Gu and the Yale School of Public Health estimate that actual infections began increasing in mid-December

- Two models:
  - Youyang Gu: https://covid19-projections.com
  - Yale School of Public Health: https://covidestim.org
- Gu model lags by two weeks



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Newly-Detected Cases Per Day

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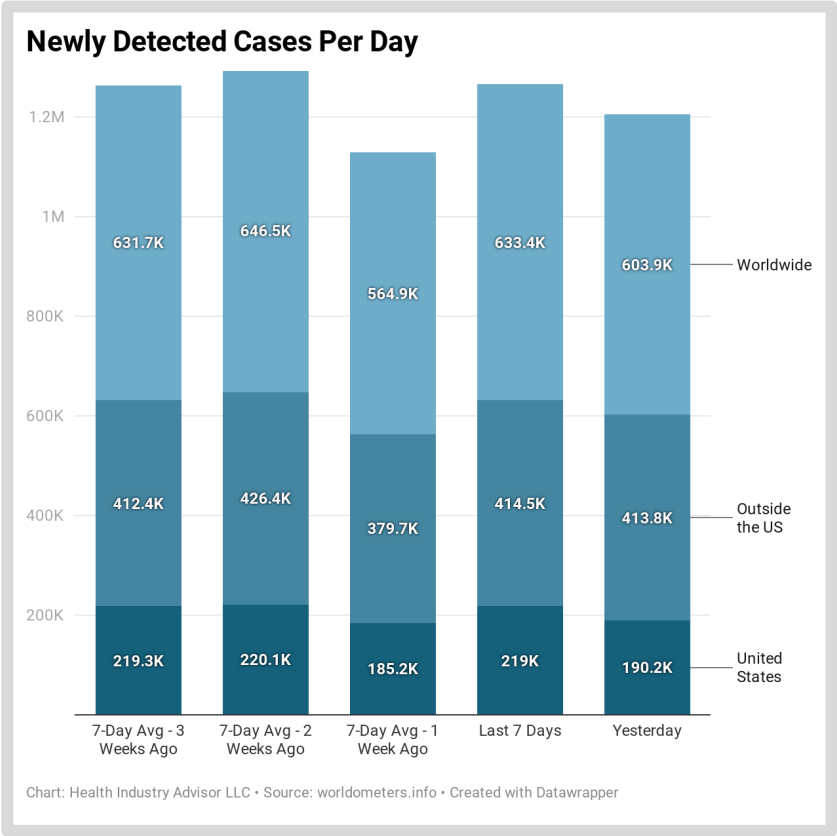
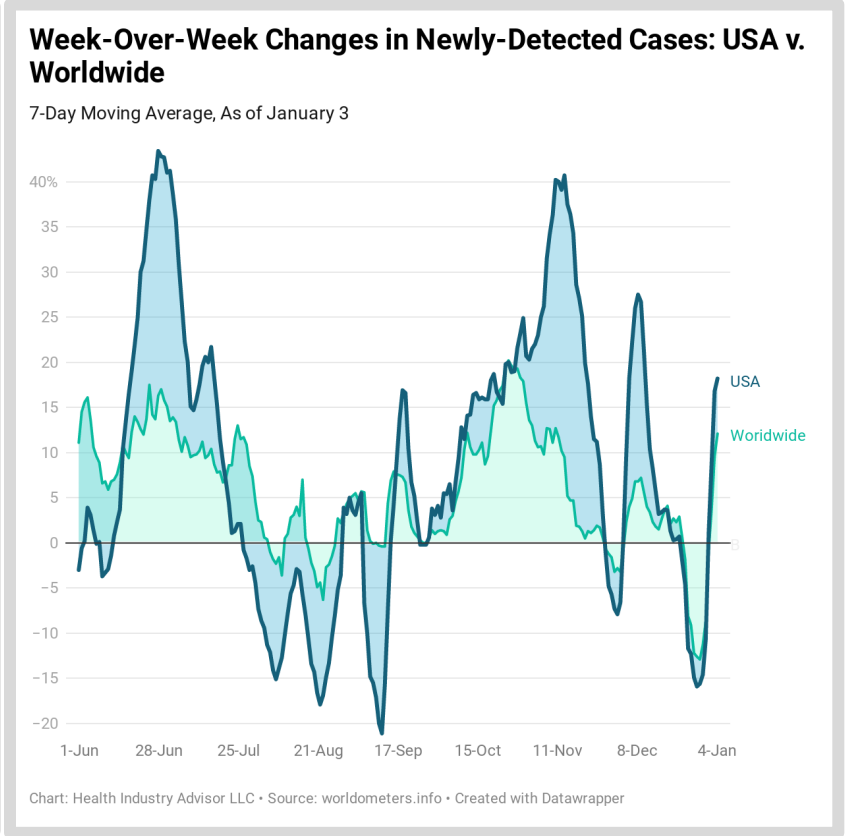
Reported cases were lower during the 7-day period including Christmas; In the US the past 7 days, these returned to levels comparable to the two weeks pre-Christmas





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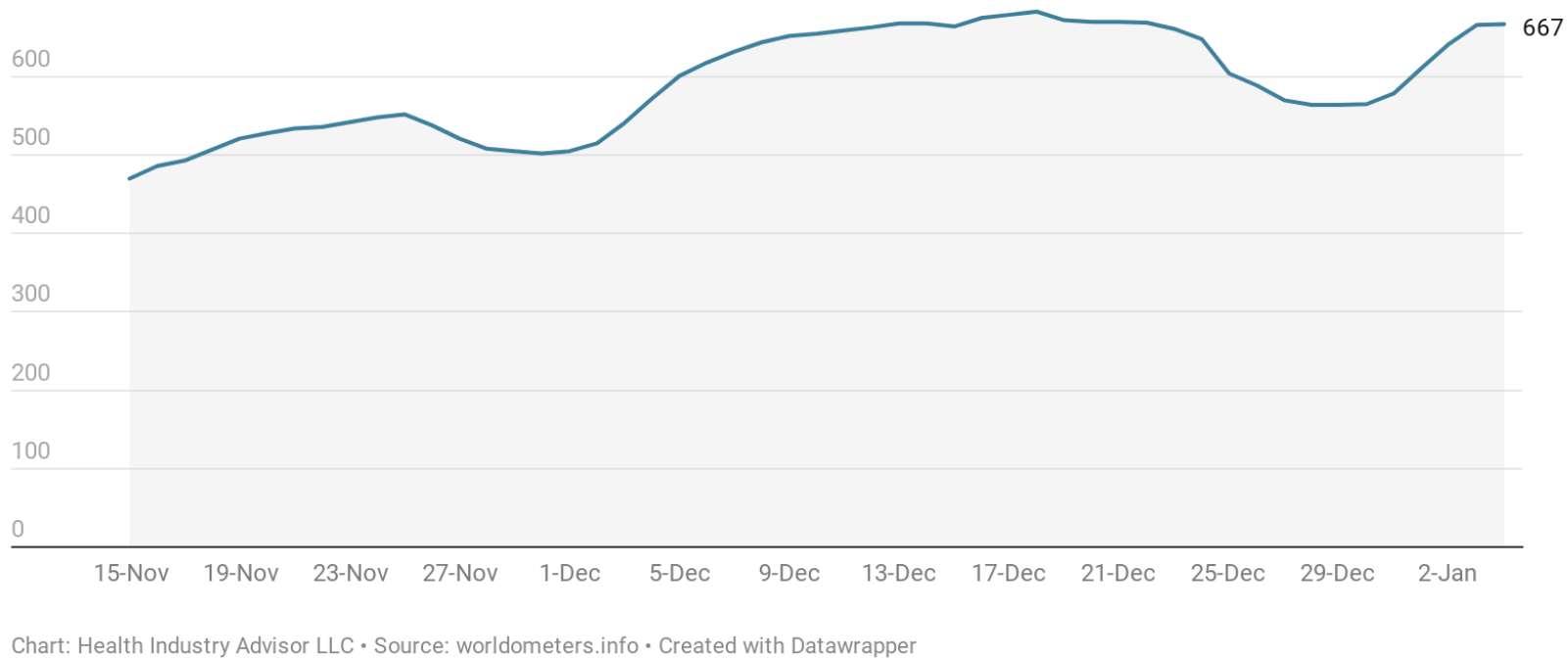
Newly Detected Cases / Million - US

Newly detected cases (7-day average) appeared to have plateaued over the past two days – at a level slightly lower than the pre-Christmas peak



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Newly Detected Cases Per Million – Europe

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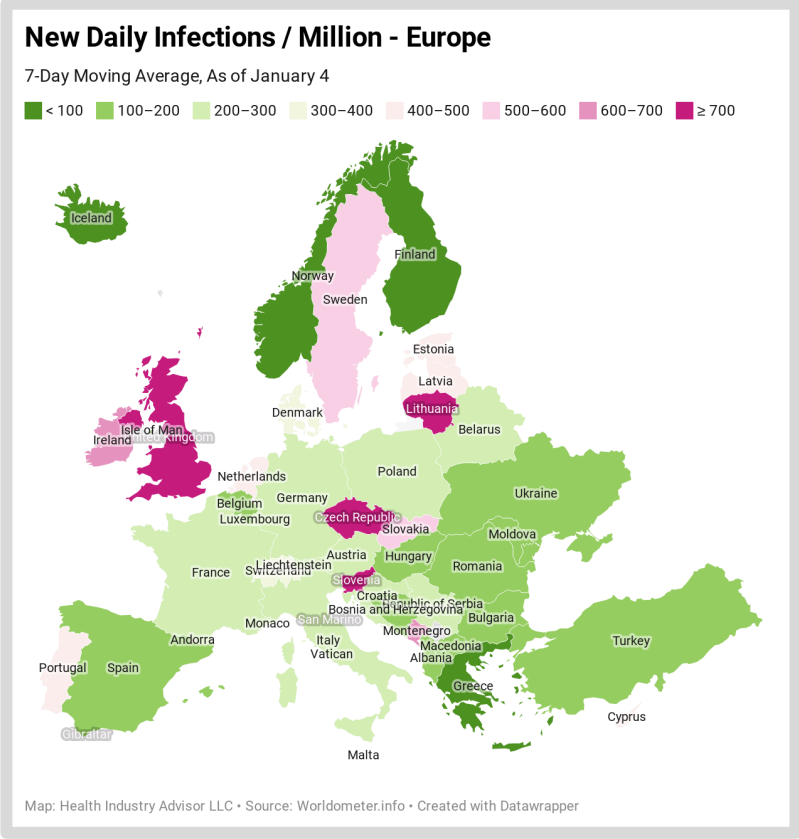
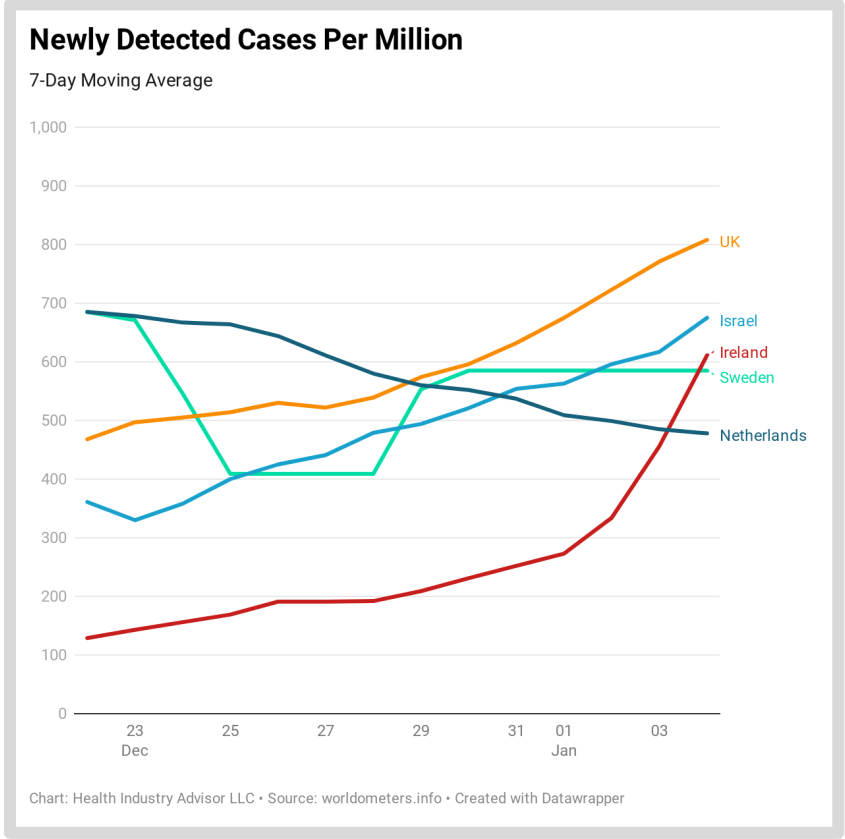
The new strain seems to be driving a surge in cases in the UK and now in Ireland too; Cases in Israel are on a similar trajectory; Netherlands is experiencing some easing in new case rates. Sweden is seeing a flattening in cases





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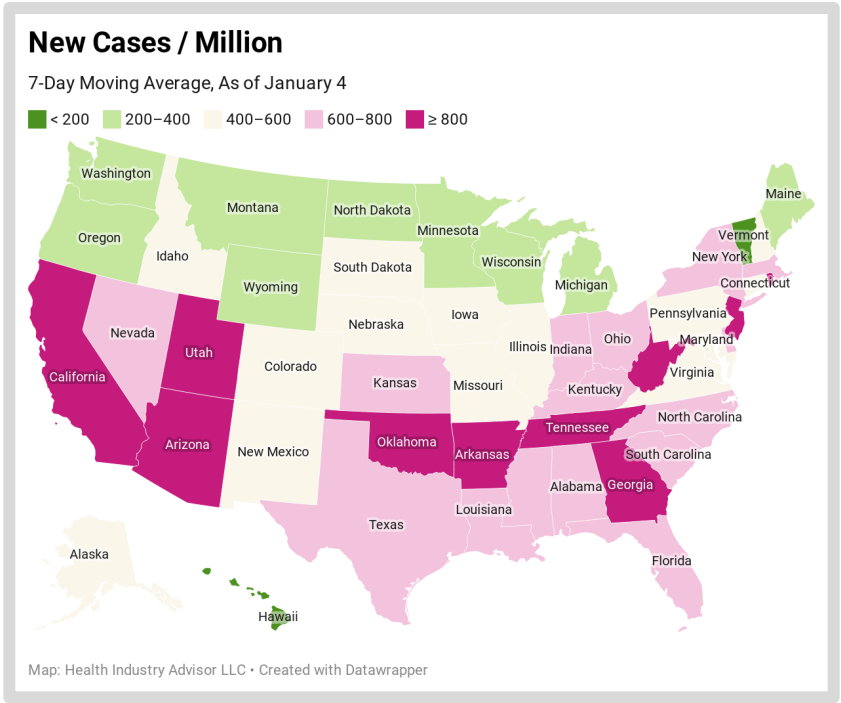
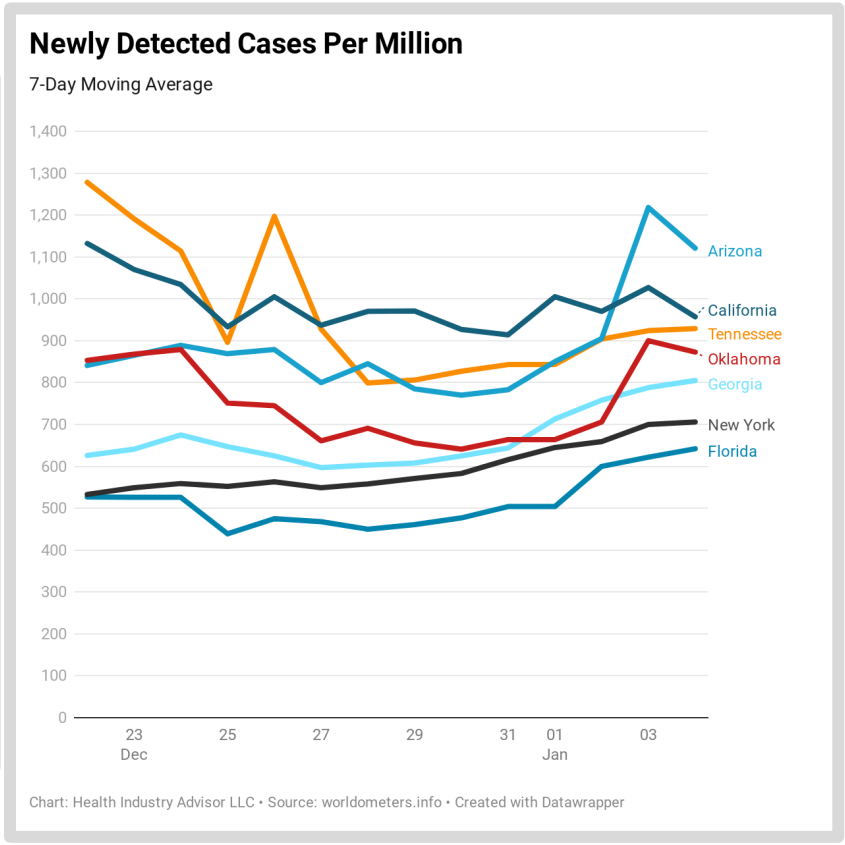
Newly Detected Cases Per Million – US

Coming out of the holidays, the Southwest and part of the Plains have the highest case rates; Rate is accelerating in Arizona; steadily increasing in Florida, Georgia and New York; stabilizing in California?





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Hospitalized Covid-19 Patients

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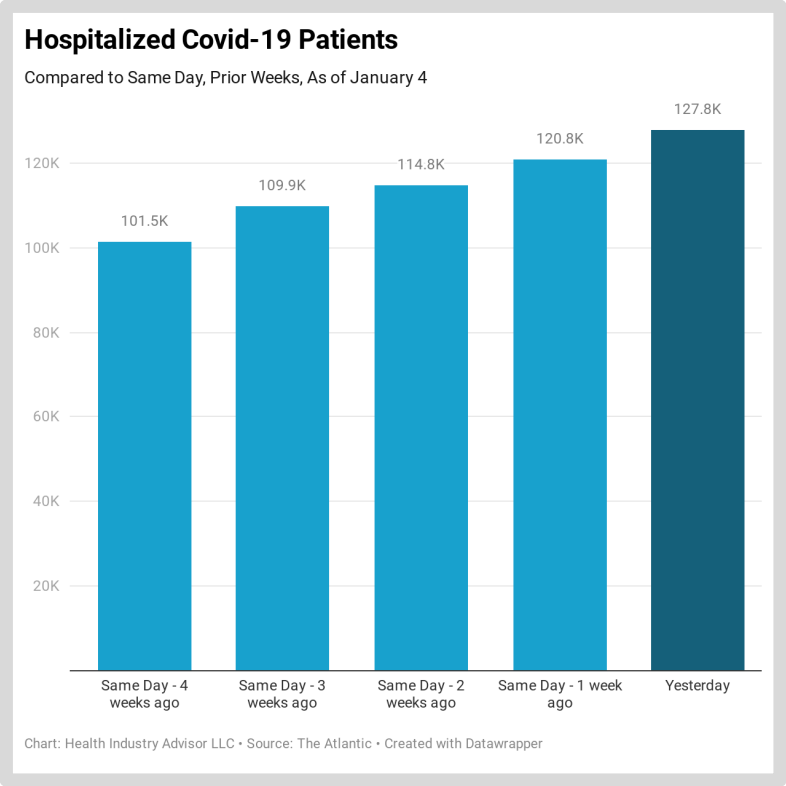
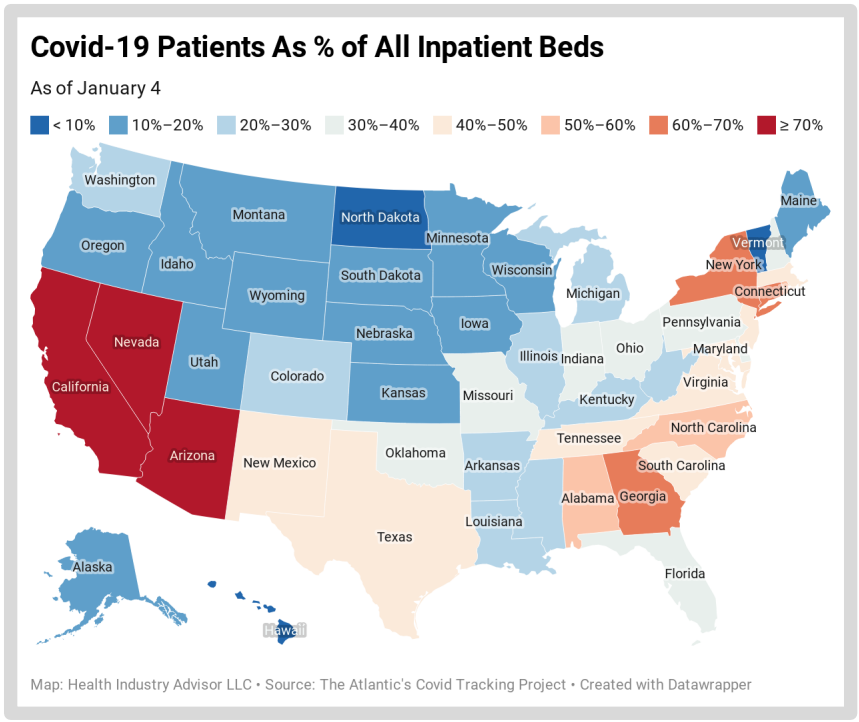
Hospitalized patients at historically high levels; Greatest challenges are in the Southwest then, Connecticut, Georgia and New York





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% of Visits Relating to Influenza

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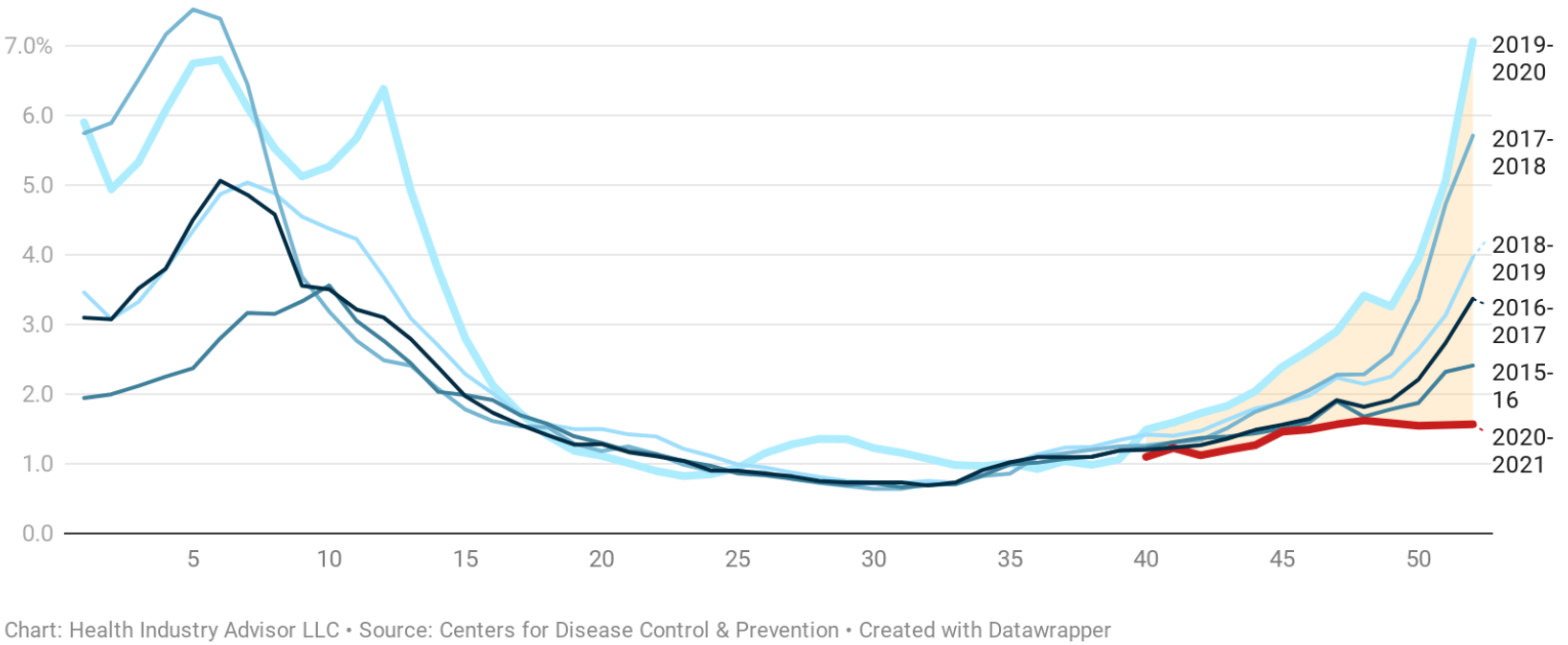
Thirteen weeks into the 2020/21 flu season, we are experiencing a milder season than in each of the past 5 years; Last week, visits were 5x higher for the same period last season



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Daily Deaths Reported With Covid-19

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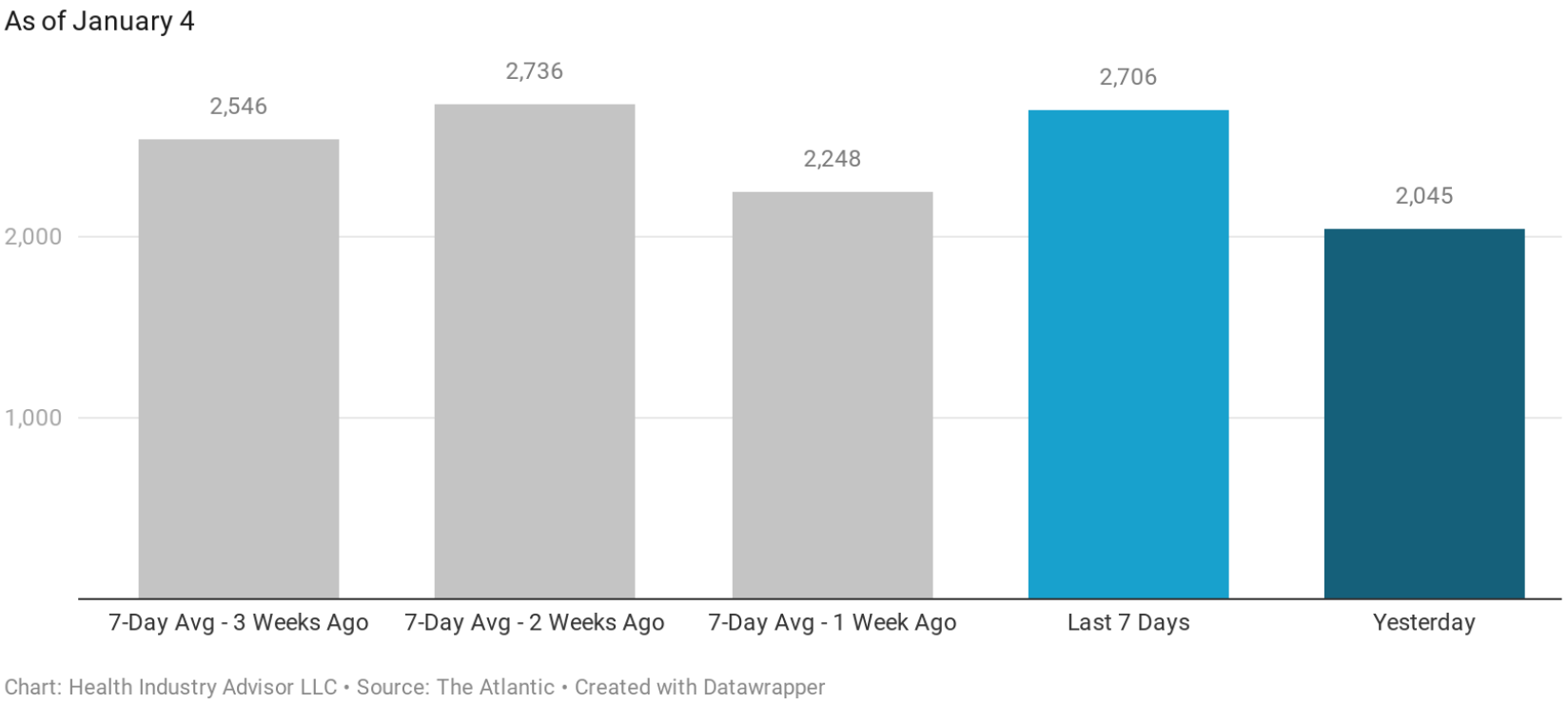
Reported deaths yesterday were lower than recent averages; For the last 7 days, however, deaths comparable to the week before Christmas



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Testing Results - US

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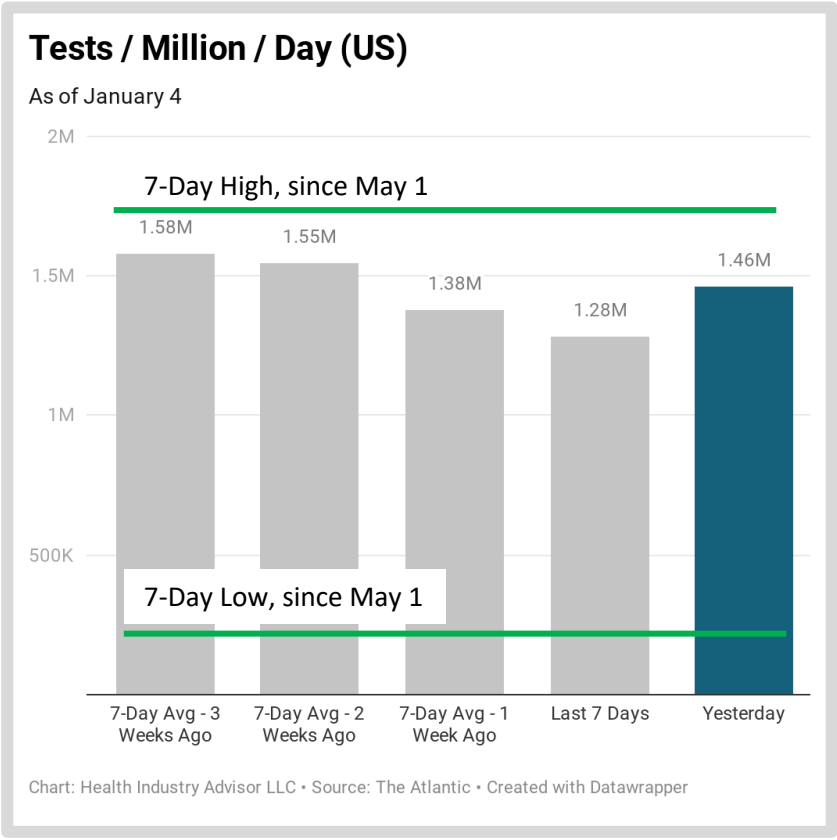
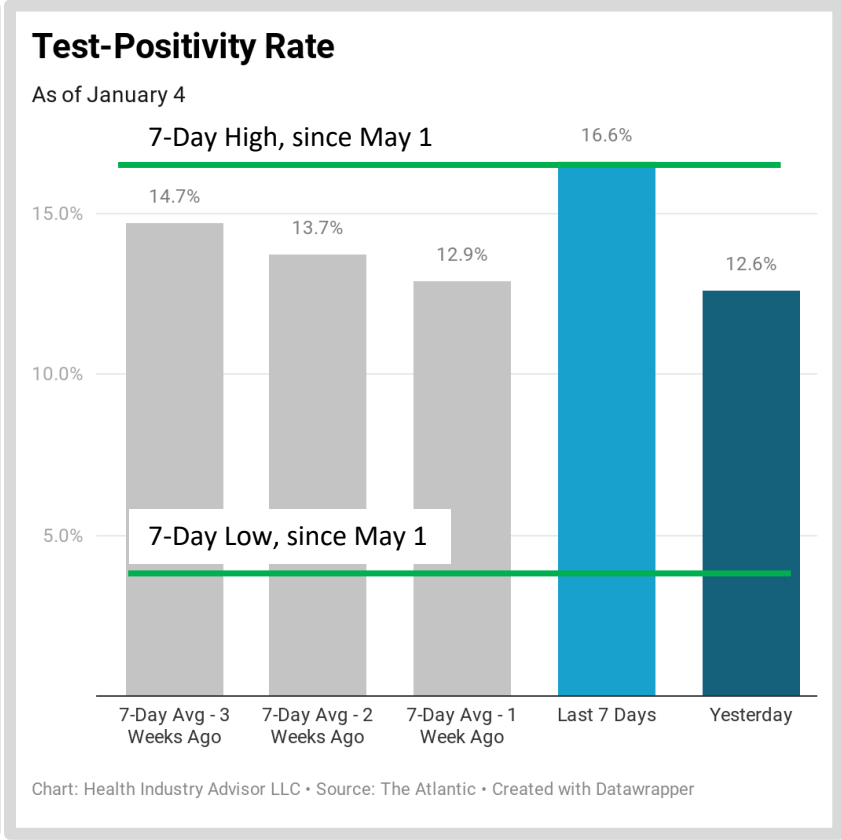
Test volume had been low the past week, resulting in higher test-positive rates; With higher volume yesterday, the test-positive rate was lower than its average for the prior three weeks





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Sources

The following data sources are accessed on a daily or weekly basis

- The Atlantic's Covid Tracking Project: https://covidtracking.com
- Worldometers.info: https://www.worldometers.info/coronavirus/
- Centers for Disease Control and Prevention, National, Regional, and State Level Outpatient Illness and Viral Surveillance https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html
- Centers for Disease Control and Prevention, COVID-19 Laboratory-Confirmed Hospitalizations https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control and Prevention, COVID Data Tracker https://www.cdc.gov/covid-data-tracker/index.html#mobility
- Centers for Disease Control and Prevention, Vaccines, https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html
- Institute for Health Metrics and Evaluation, COVID-19 estimate downloads http://www.healthdata.org/covid/data-downloads
- New York Times, Covid-19 data https://github.com/nytimes/covid-19-data
- COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University https://github.com/CSSEGISandData/COVID-19
- COVID-19 Projections Using Machine Learning, https://covid19-projections.com
- Oliver Wyman Pandemic Navigator, https://pandemicnavigator.oliverwyman.com/forecast?mode=country&region=United%20States&panel=mortality
- Bloomberg Vaccine Trackers, https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?sref=Z0b6TmHW

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