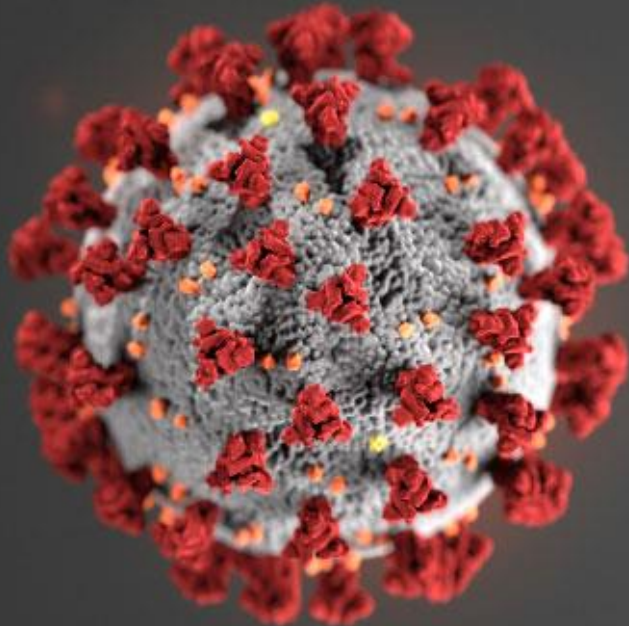


SARS-Cov-2 Report

José Luis Pires

12 January 2021



Contents

SARS-Cov-2

- [Vaccines and Products to treat COVID-19 with EUA in the United States](#)
- [Confirmed cases by Country](#)
- [Deaths by Country](#)
- [Total confirmed Covid-19 cases and deaths per million people](#)
- [Daily new confirmed Covid-19 cases and deaths per million people](#)
- [Number of COVID-19 cases reported weekly by WHO region](#)
- **Portugal**
 - [Cases, Deaths and Projections](#) – per week
- **Ireland**
 - [Cases, Deaths and Projections](#) – per week
- **New Jersey/US**
 - [Cases, Deaths and Projections](#) – per week
- [Recent News](#)

When to Expect the Next Vaccine

Progress: ■ Trial ■ Results expected ■ Awaiting approval ■ Available to public

👤 Trial size 💧 Doses required ❄️ Storage temperature ✅ Efficacy

Pfizer/BioNTech

👤 44K 💧 2 ❄️ -70°C ✅ 95%

Pfizer was the first company to report positive phase 3 clinical data. It plans to produce 50M doses in 2020 and 1.3B in 2021.

Moderna

👤 30K 💧 2 ❄️ 2-8°C ✅ 95%

Moderna and Pfizer both use a new vaccine approach involving messenger RNA. Moderna expects to have 20M doses for the U.S. in December and 100M globally in Q1.

AstraZeneca/Oxford

👤 65K 💧 2 ❄️ 2-8°C ✅ 70%

AstraZeneca struck deals for 3 billion doses even before any late-stage study results. That's more than twice as many as any other candidate. Initial clinical results were mixed.

Novavax

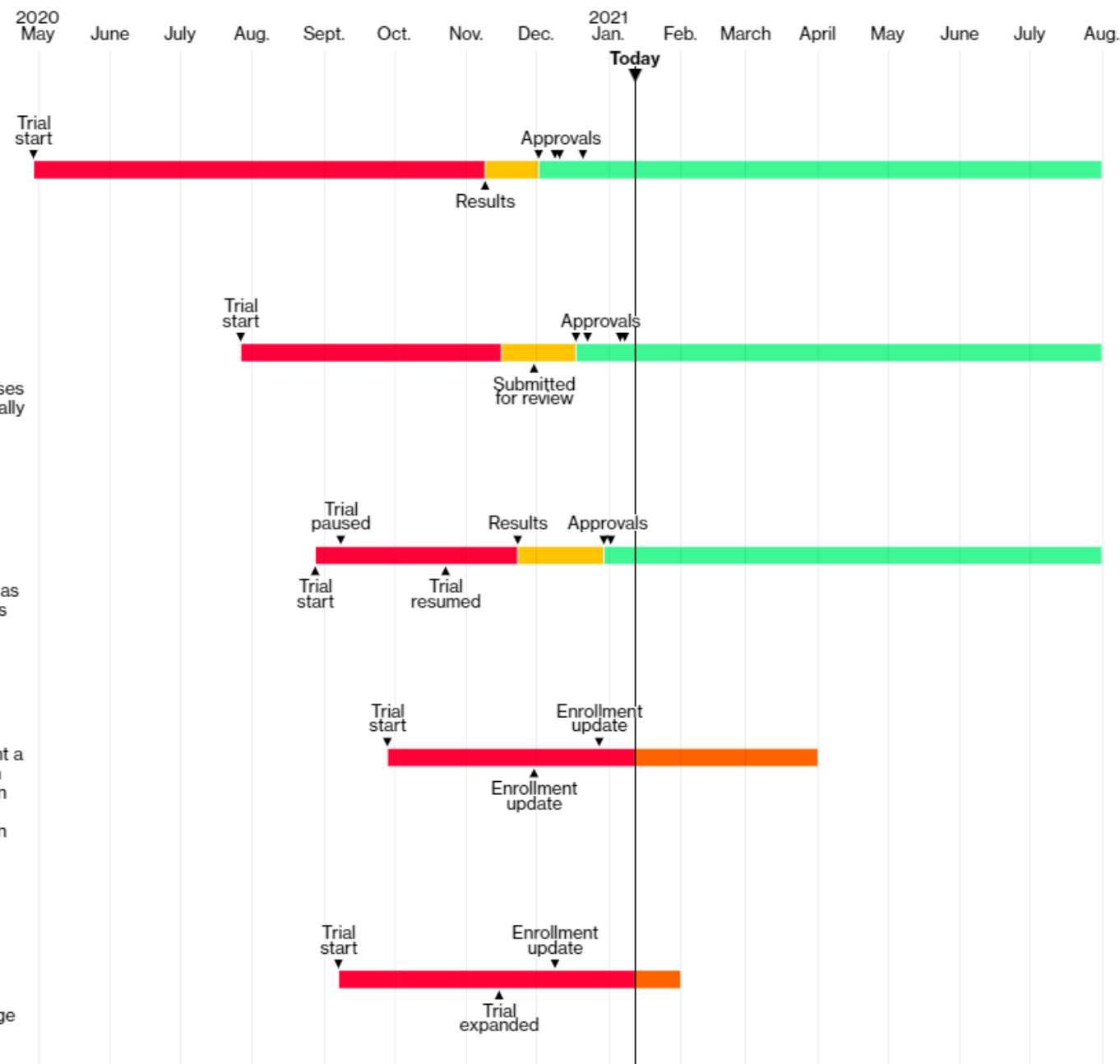
👤 45K 💧 2 ❄️ 2-8°C

This small biotech firm has never brought a product to market. It received more than \$1.6 billion from the U.S. and \$399 million from the Coalition for Epidemic Preparedness. The stock rose 3,000% in nine months.

Johnson & Johnson

👤 70K 💧 1 ❄️ 2-8°C

Of the leading candidates, this is the easiest to distribute, requiring just one dose and standard refrigeration. To hedge its bets, J&J announced a separate trial with two doses in November.



Regulatory Approval

Dec. 21: EU approves for emergency use
Dec. 11: U.S. approves for emergency use
Dec. 9: Canada approves for emergency use
Dec. 2: U.K. approves for emergency use

Regulatory Approval

Jan. 8: U.K. clears for emergency use
Jan. 6: EU authorizes for emergency use
Dec. 23: Canada authorizes for emergency use
Dec. 18: U.S. authorizes for emergency use

Regulatory Approval

Jan. 2: India authorizes for emergency use
Dec. 30: U.K. authorizes for emergency use

When to Expect the Next Vaccine

Progress: ■ Trial ■ Results expected ■ Awaiting approval ■ Available to public

👤 Trial size 💧 Doses required ❄️ Storage temperature ✅ Efficacy

2020 May June July Aug. Sept. Oct. Nov. Dec. 2021 Jan. Feb. March April May June July Aug.

Today

Russia and China took the unusual step of allowing vaccine distribution before conducting large-scale clinical trials.

Sinovac Biotech

👤 26K 💧 2 ❄️ 2-8°C ✅ 78%

Sinovac's vaccine triggers an immune response using the Covid-19 virus itself, after it has been chemically inactivated.

Gamaleya

👤 40K 💧 2 ❄️ -18°C ✅ 91%

A variation of the Russian vaccine, known as Sputnik V, can be stored using standard refrigeration temperatures of 2-8°C. It's currently available in limited quantities.

CanSino Biologics

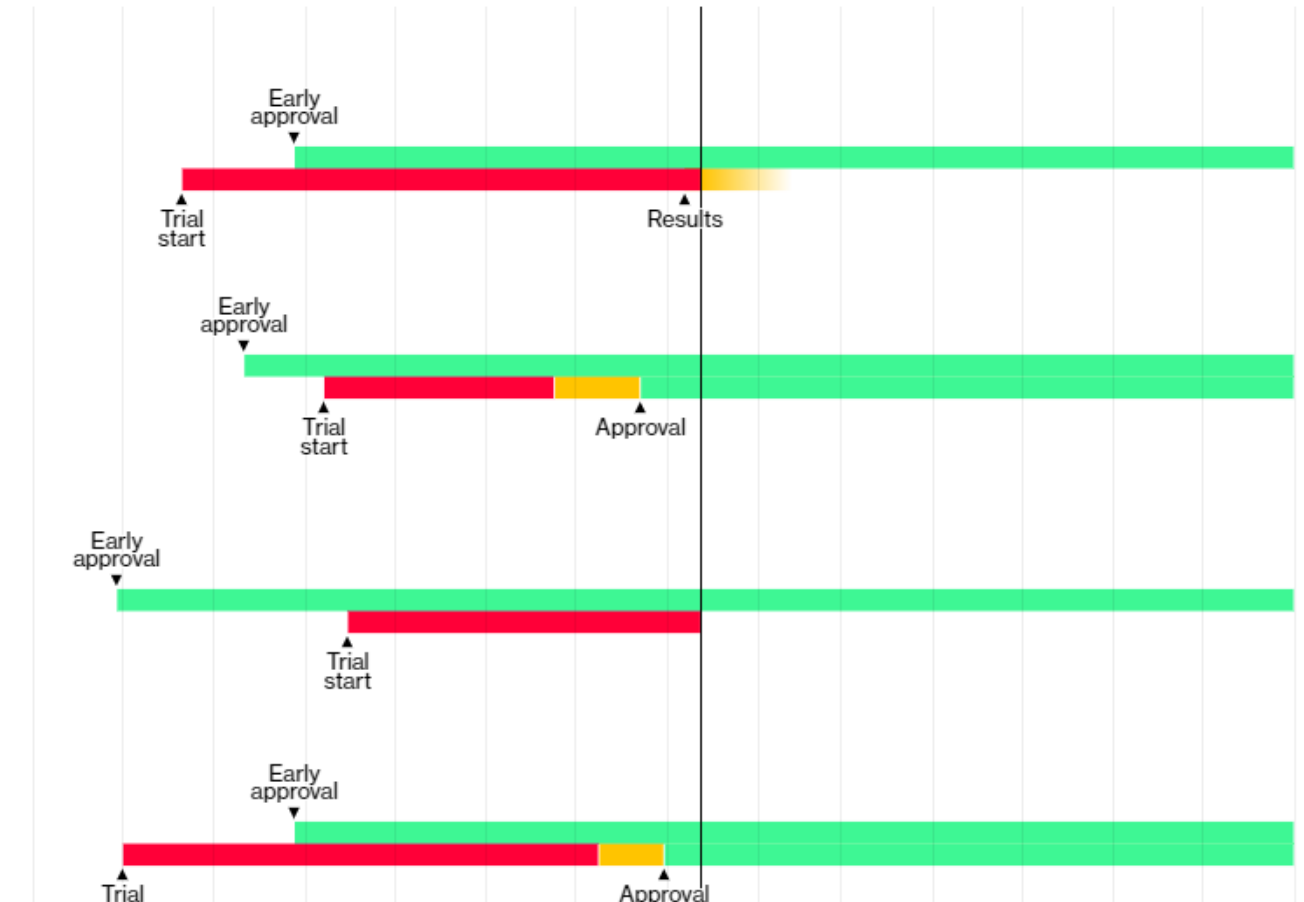
👤 40K 💧 1 ❄️ 2-8°C

CanSino's shot was approved for the Chinese military even before late-stage tests began. It uses a harmless cold virus to deliver its genetic payload.

Sinopharm

👤 50K 💧 2 ❄️ 2-8°C ✅ 79%

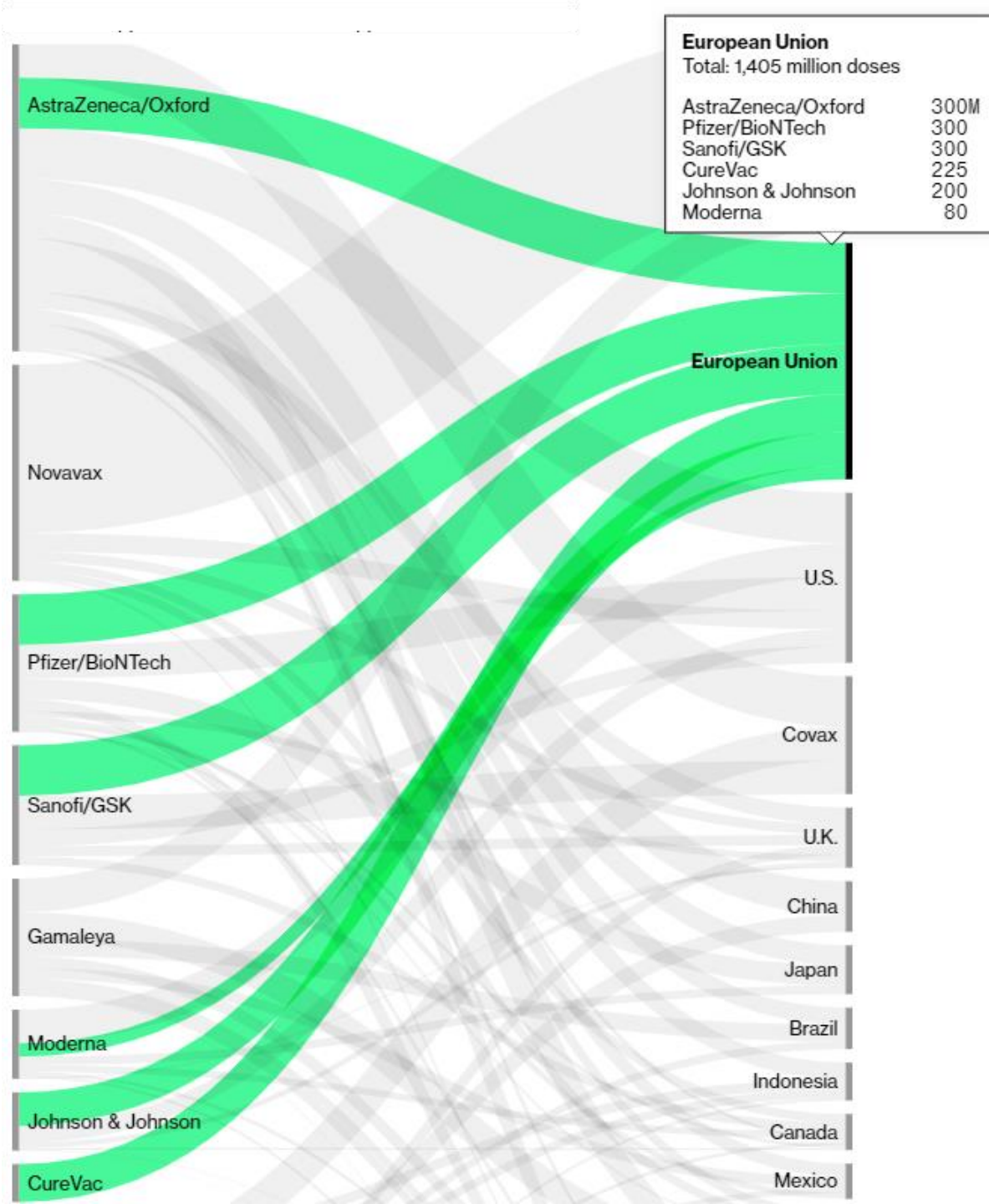
Sinopharm administered hundreds of thousands of doses before its vaccine was fully tested.



Dec. 23, 2020
Argentina approves for emergency use

Dec. 31, 2020
China approves vaccine for general use after trial shows 79% efficacy

A global network of publicly disclosed vaccine deals



Source: Bloomberg

The Global Vaccination Campaign

More than 29 million doses have been administered in 43 countries

Country	No. of doses administered ▼	Per 100 people	Last updated
Global total	29,038,512	-	Jan. 11
U.S.	9,268,879	2.82	Jan. 11
China	9,000,000	0.64	Jan. 08
EU	2,744,613	-	Jan. 11
U.K. +	2,675,289	4.01	Jan. 11
Israel	1,870,652	20.67	Jan. 11
Russia*	1,500,000	1.02	Jan. 11
U.A.E.	1,167,251	10.86	Jan. 11
Italy	643,219	1.07	Jan. 11
Germany	613,347	0.74	Jan. 11
Spain	406,091	0.87	Jan. 11
Canada +	329,774	0.88	Jan. 11
Poland	203,053	0.53	Jan. 11
France	138,351	0.21	Jan. 11
Saudi Arabia	130,000	0.38	Jan. 07
Romania	125,190	0.65	Jan. 10
Denmark	115,932	2.00	Jan. 11
Argentina	107,542	0.24	Jan. 08
Bahrain	89,250	6.01	Jan. 10
Mexico	81,300	0.06	Jan. 10
Portugal	74,099	0.72	Jan. 11

Country	No. of doses administered ▼	As % of population	Last updated
Hungary	71,000	0.73	Jan. 11
Greece	49,465	0.46	Jan. 11
Czech Republic	40,000	0.38	Jan. 11
Sweden	40,000	0.39	Jan. 07
Austria	38,545	0.44	Jan. 11
Netherlands	31,000	0.18	Jan. 10
Croatia	27,000	0.66	Jan. 11
Slovakia	26,251	0.48	Jan. 10
Lithuania	22,549	0.81	Jan. 11
Norway	20,833	0.39	Jan. 11
Slovenia	20,546	0.99	Jan. 11
Oman	15,907	0.38	Jan. 11
Ireland	15,314	0.31	Jan. 07
Finland	14,196	0.26	Jan. 11
Bulgaria	13,473	0.19	Jan. 09
Chile	10,699	0.06	Jan. 09
Estonia	10,197	0.77	Jan. 09
Costa Rica	9,751	0.19	Jan. 08
Serbia	9,300	0.13	Jan. 10

Coronavirus (SARS-CoV-2 / Covid-19) – Confirmed cases by country

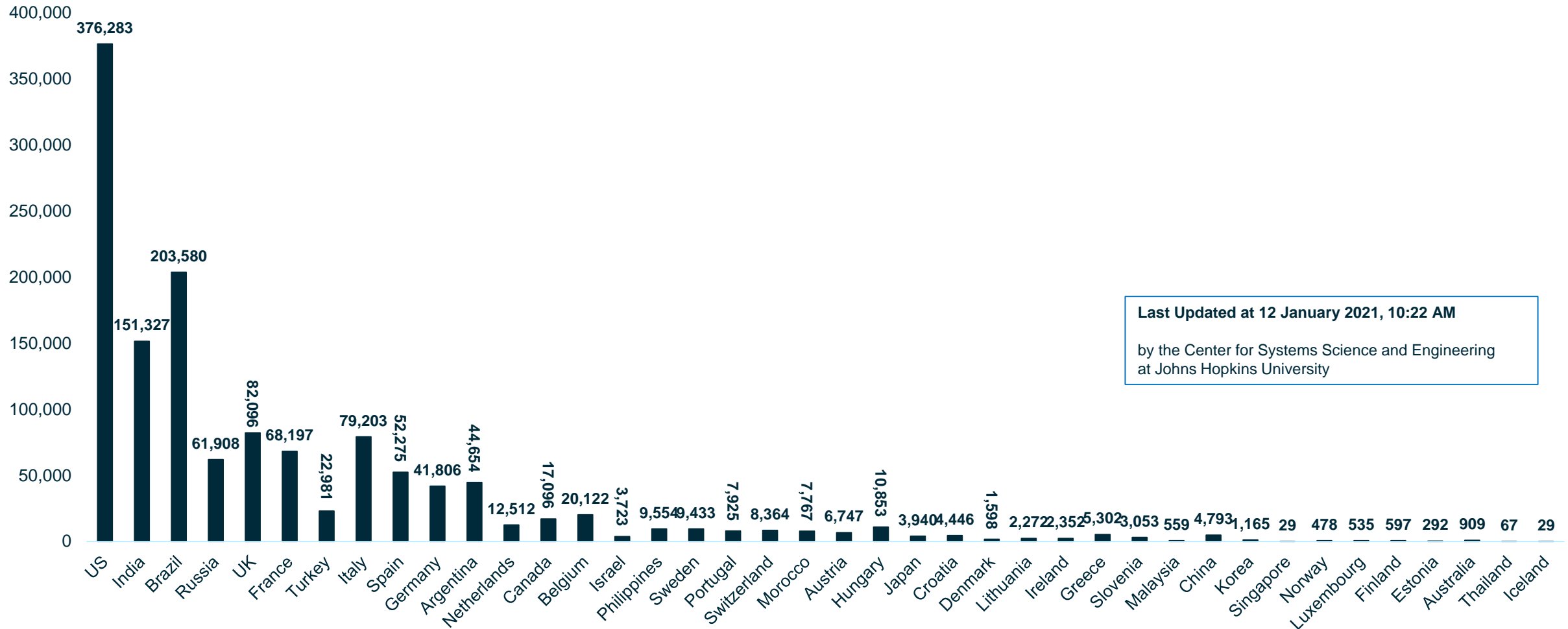
Note: Selected Countries, sorted by # of cases



Last Updated at 12 January 2021, 10:22 AM
by the Center for Systems Science and Engineering
at Johns Hopkins University

Coronavirus (SARS-CoV-2 / Covid-19) – Deaths by Country

Note: Selected Countries, sorted by # of cases



Last Updated at 12 January 2021, 10:22 AM

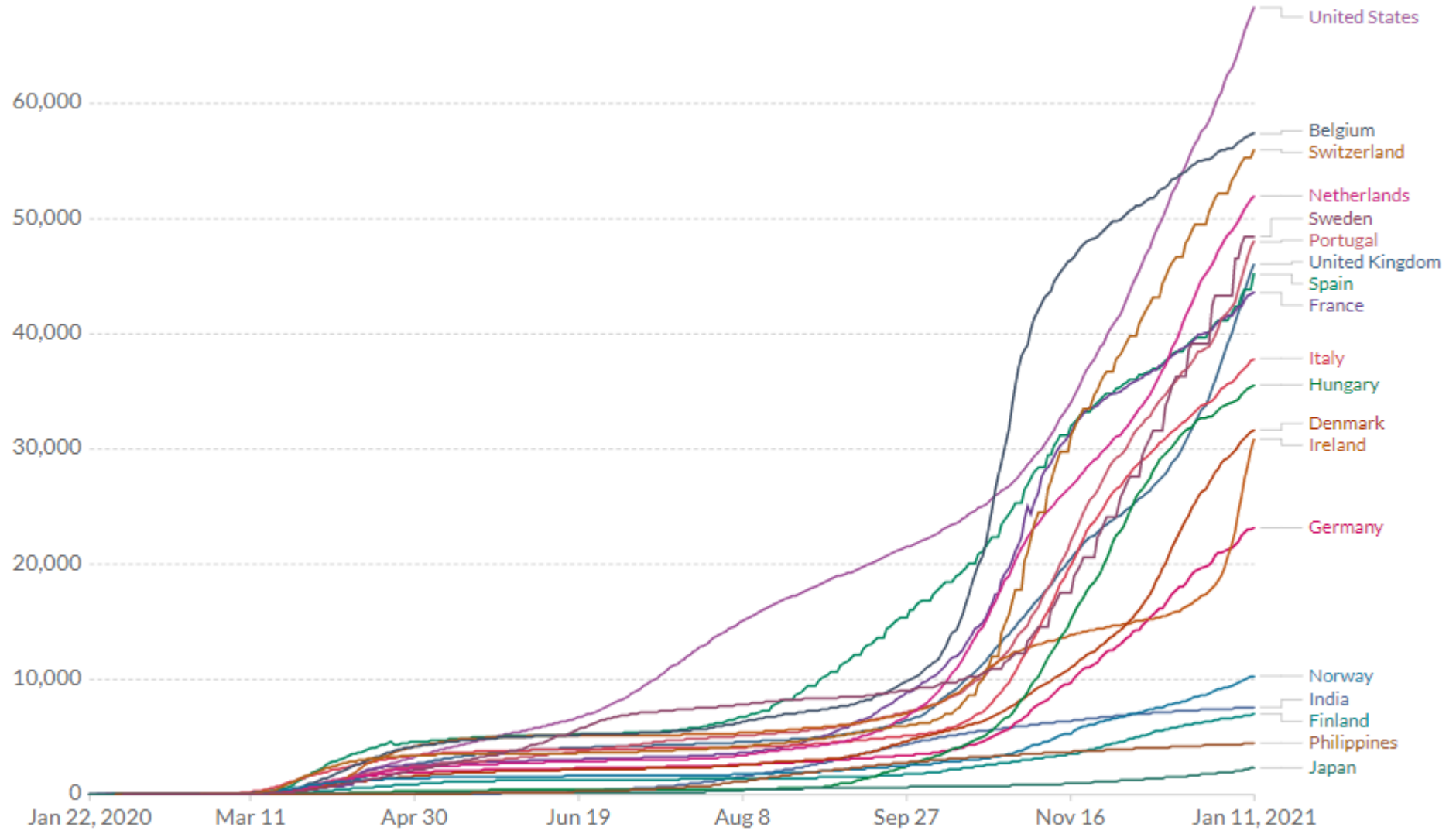
by the Center for Systems Science and Engineering
at Johns Hopkins University

Source: <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

Total confirmed Covid-19 cases per million people

Jan 11, 2021

United States	68,319.04
Belgium	57,398.19
Switzerland	55,982.37
Netherlands	51,973.89
Sweden	48,465.98
Portugal	47,985.39
United Kingdom	46,071.99
Spain	45,167.19
France	43,580.92
Italy	37,858.94
Hungary	35,573.87
Denmark	31,663.25
Ireland	30,892.12
Germany	23,168.11
Norway	10,311.84
India	7,593.58
Finland	7,000.90
Philippines	4,469.17
Japan	2,322.53

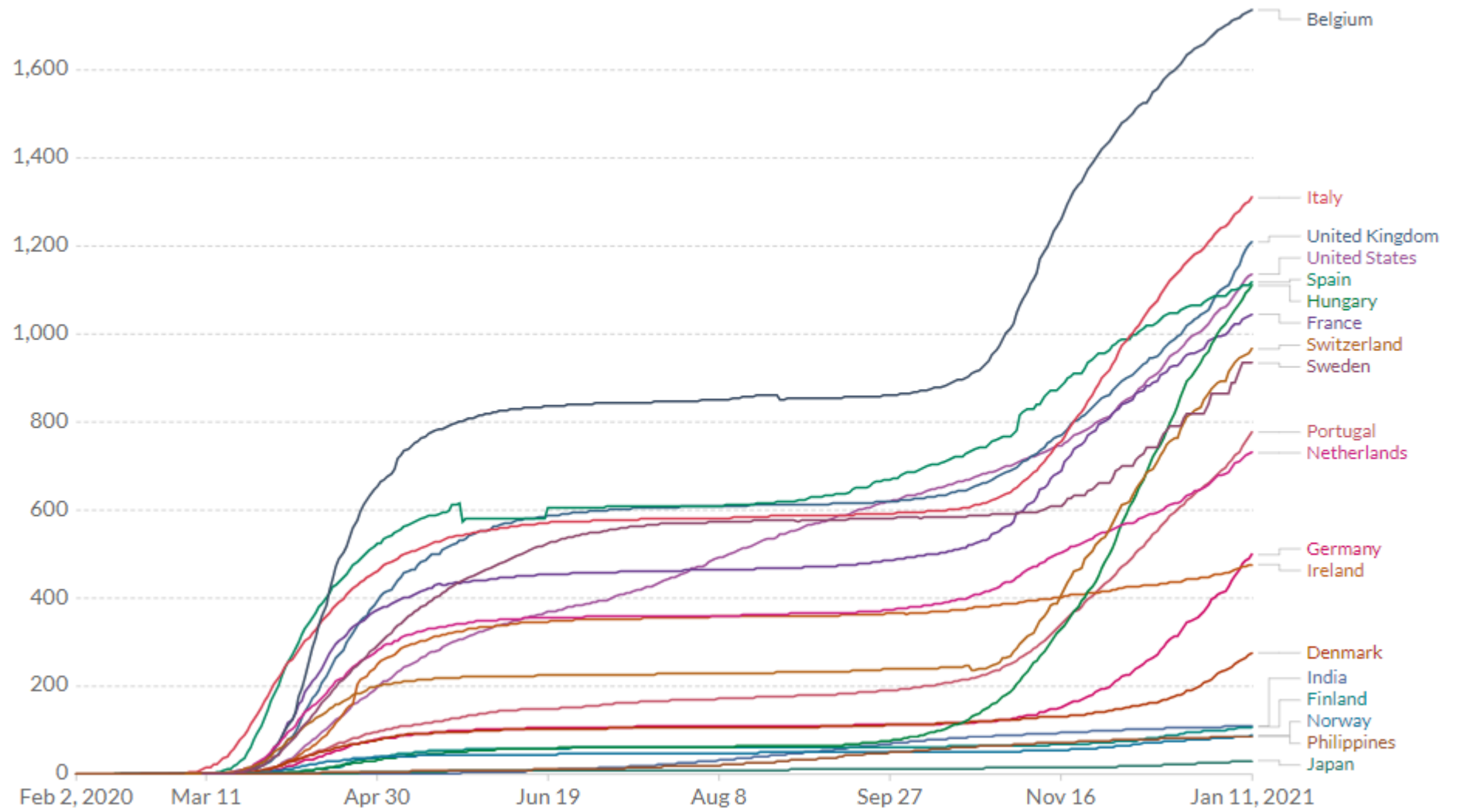


Source: Johns Hopkins University CSSE COVID-19 Data - Last updated 12 January, 06:02 (London time)

Total confirmed Covid-19 deaths per million people

Jan 11, 2021

Belgium	1,736.21
Italy	1,309.97
United Kingdom	1,209.32
United States	1,136.12
Spain	1,118.07
Hungary	1,110.21
France	1,044.79
Switzerland	966.42
Sweden	934.03
Portugal	777.21
Netherlands	730.21
Germany	498.89
Ireland	476.33
Denmark	275.89
India	109.66
Finland	107.75
Norway	88.17
Philippines	85.93
Japan	30.82



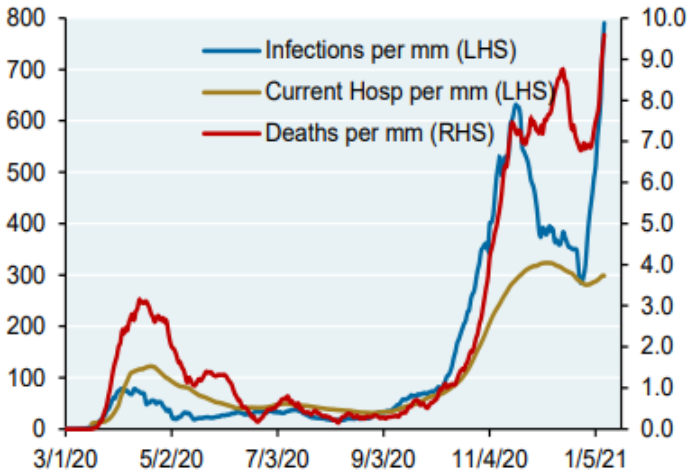
Source: Johns Hopkins University CSSE COVID-19 Data - Last updated 12 January, 06:02 (London time)

Daily infections vs mortality per million

LHS – Left Hand Scale
RHS – Right Hand Scale

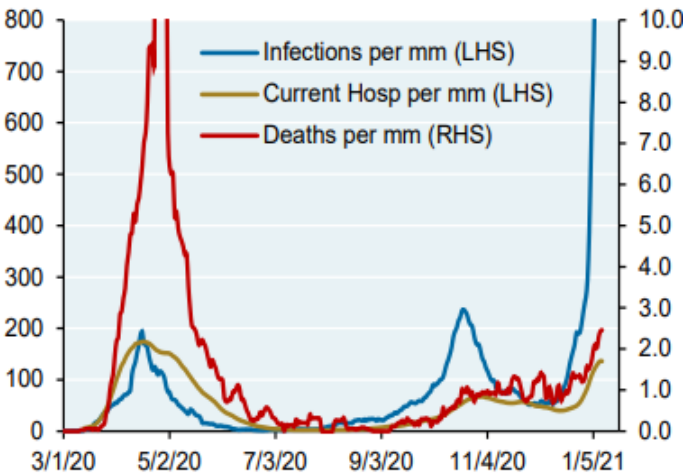
10 JAN 2021

Portugal daily infections vs mortality



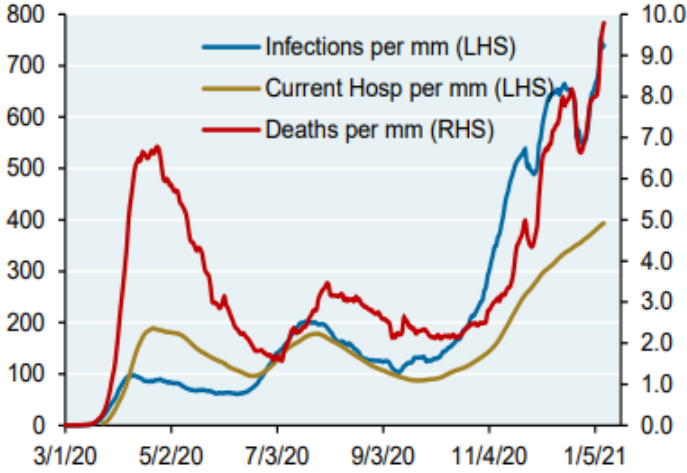
Source: JHU, ECDC, JPMAM. 01/10/2021. 7 day avg.

Ireland daily infections vs mortality



Source: JHU, ECDC, JPMAM. 01/10/2021. 7 day avg.

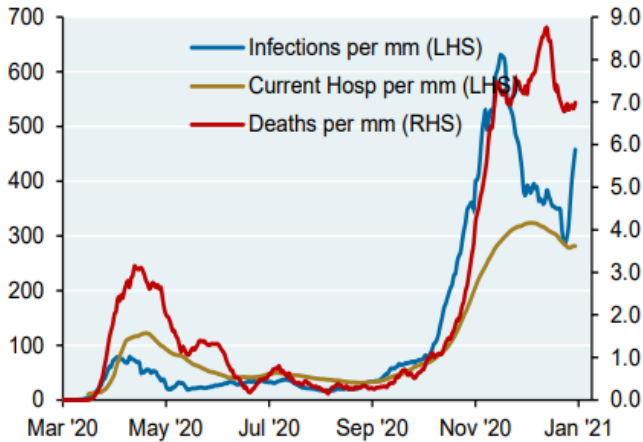
US daily infections vs mortality



Source: JHU, COVID Tracking, JPMAM. 01/10/2021. 7 day avg.

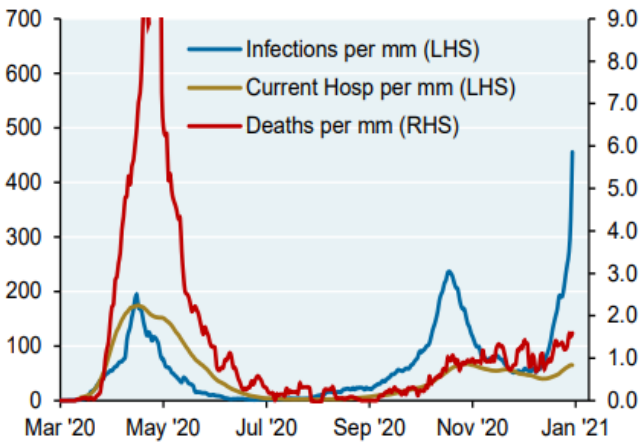
3 JAN 2021

Portugal daily infections vs mortality



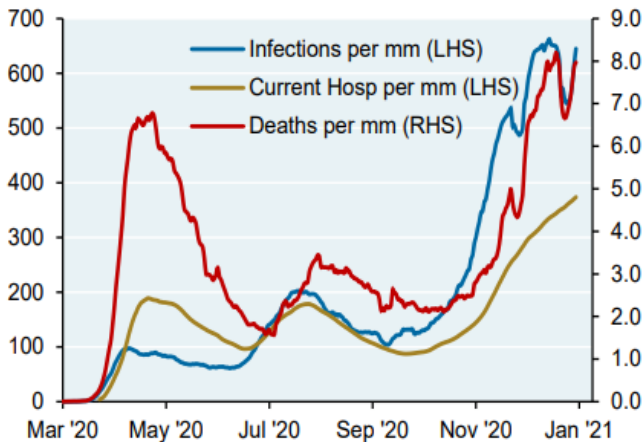
Source: JHU, ECDC, JPMAM. 01/03/2021. 7 day avg.

Ireland daily infections vs mortality



Source: JHU, ECDC, JPMAM. 01/03/2021. 7 day avg.

US daily infections vs mortality

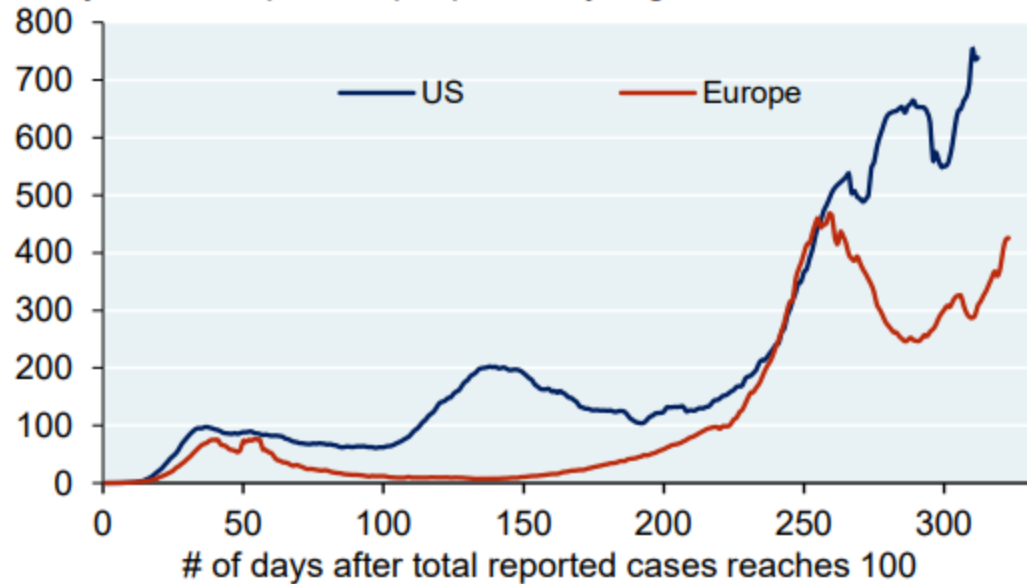


Source: JHU, COVID Tracking, JPMAM. 01/03/2021. 7 day avg.

US vs Europe infections and mortality

US vs Europe infections

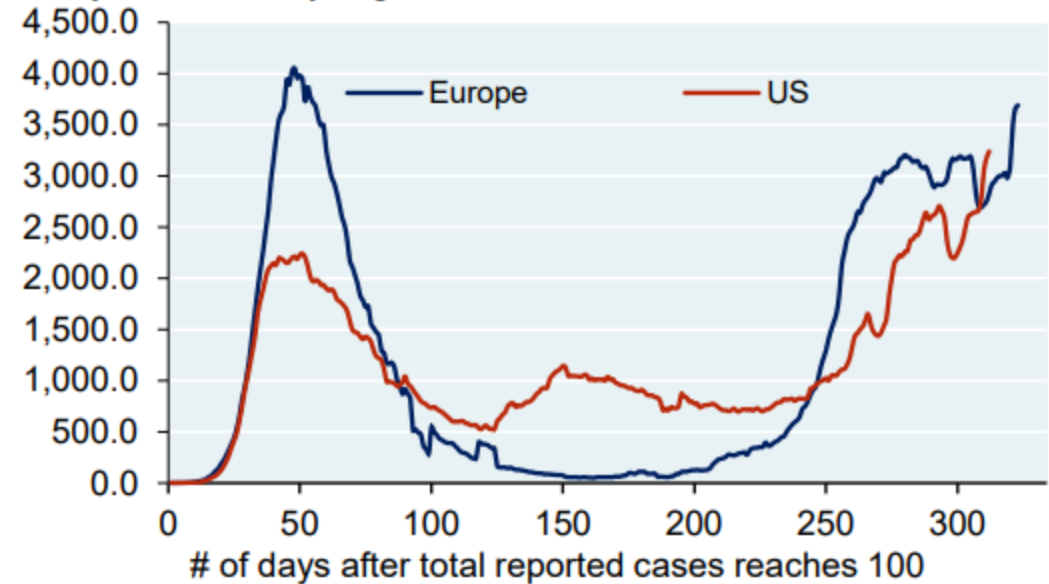
Daily infections per mm people, 7 day avg



Source: Johns Hopkins University, IMF, JPMAM. January 10, 2021.

US vs Europe mortality

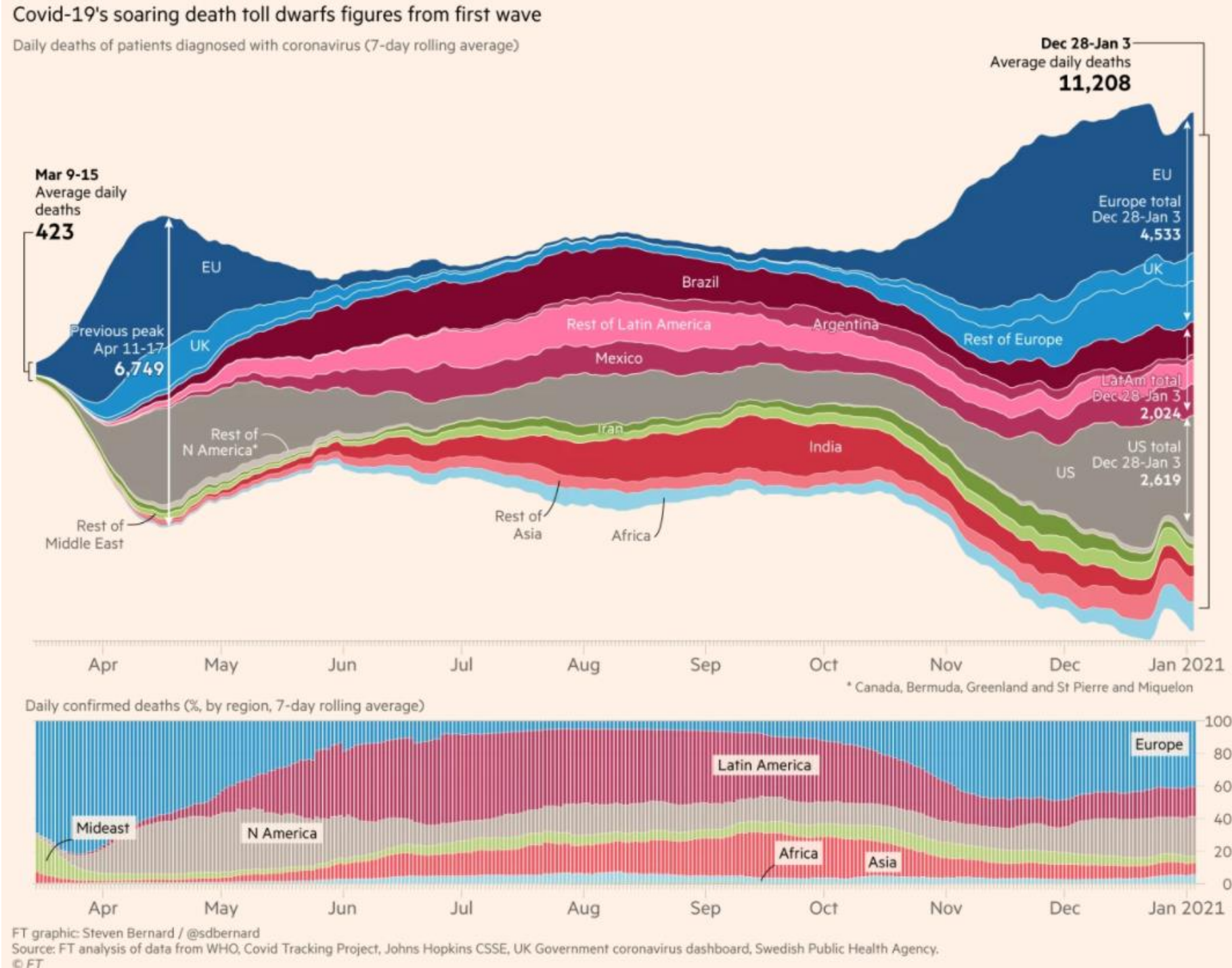
Daily deaths, 7 day avg



Source: Johns Hopkins University, JPMAM. January 10, 2021.

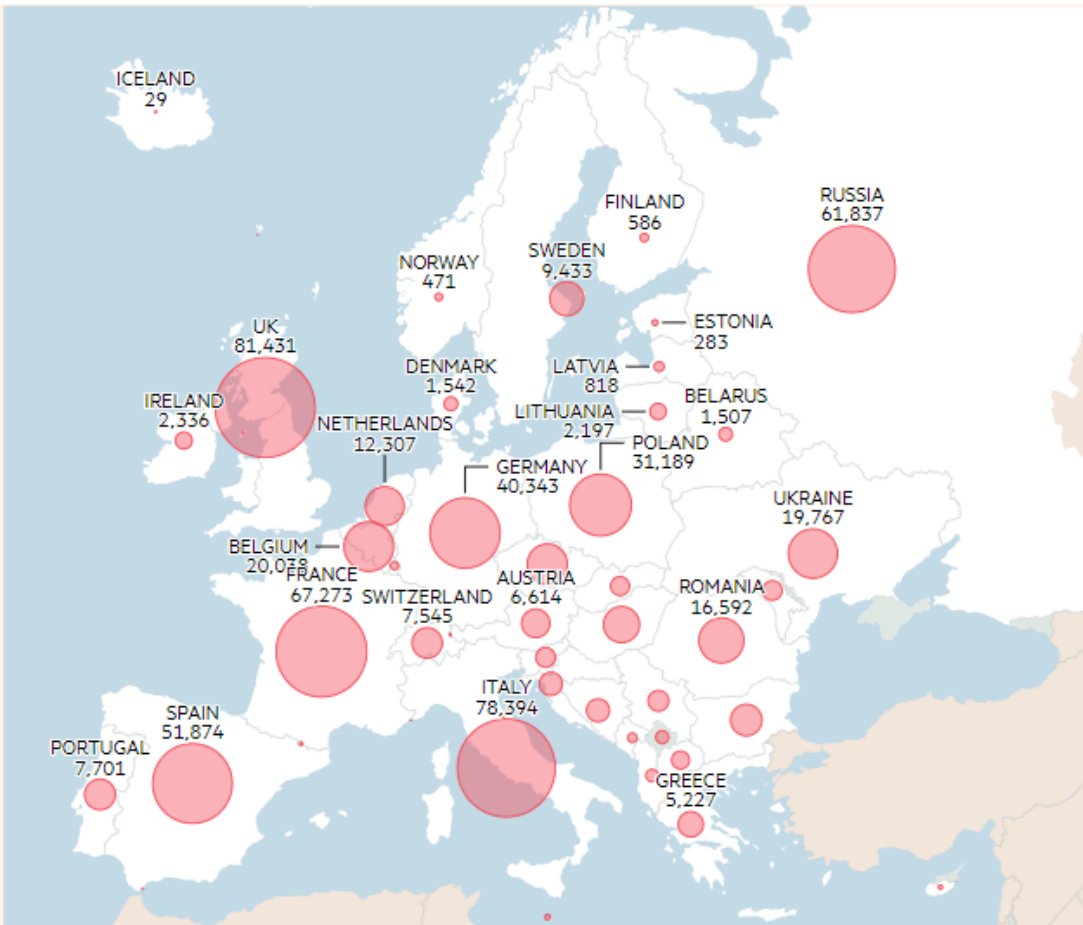
Source: <https://www.ft.com/content/a26fb7e-48f8-11ea-aeb3-955839e06441>

Daily deaths of patients diagnosed with coronavirus (7-day average)



Total deaths as of 1.13pm January 11

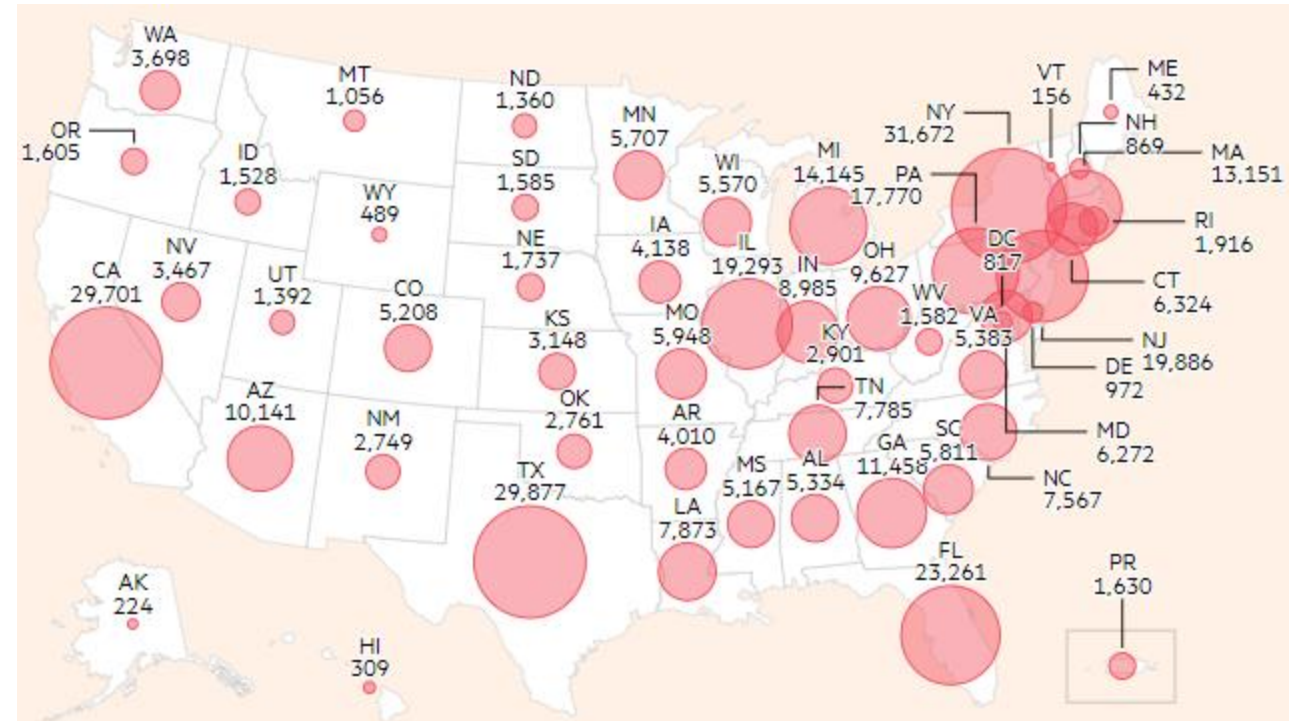
Europe



Graphic: Steven Bernard and Cale Tilford. Sources: WHO, JHU CSSE, UK gov Covid-19 dashboard, Swedish Public Health Agency; FT research © FT

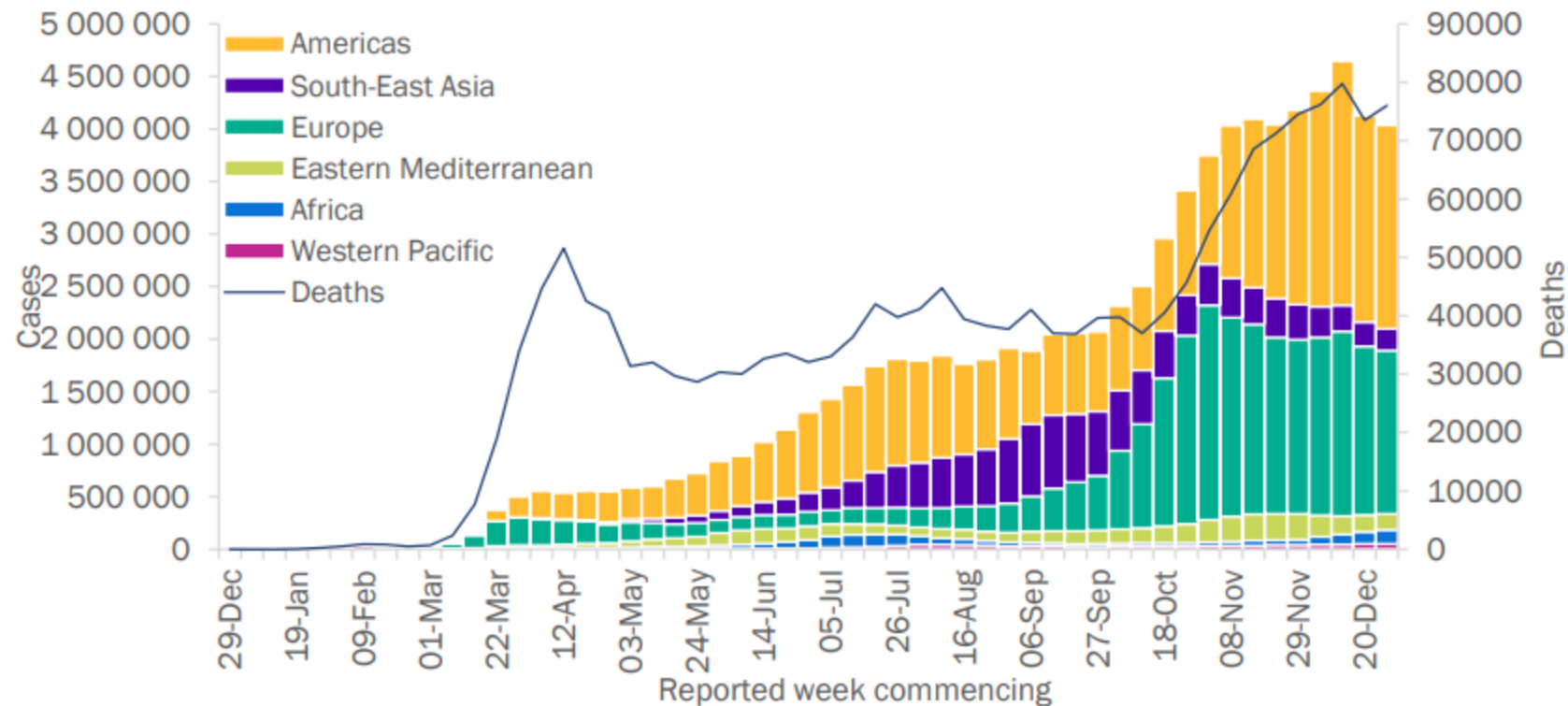
Crimea is annexed by Russia but this is not recognised by the international community

US



Graphic: Steven Bernard and Cale Tilford
Sources: Covid Tracking Project
© FT

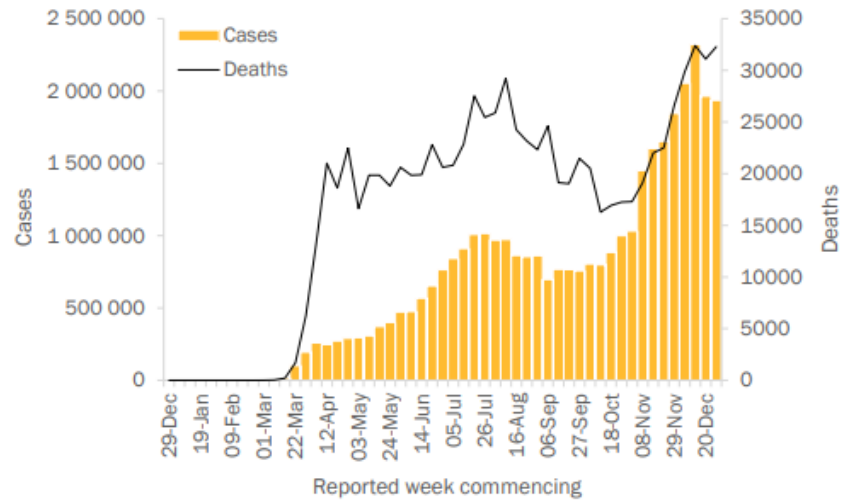
Number of COVID-19 cases reported weekly by WHO Region, and global deaths, as of 3 January 2021



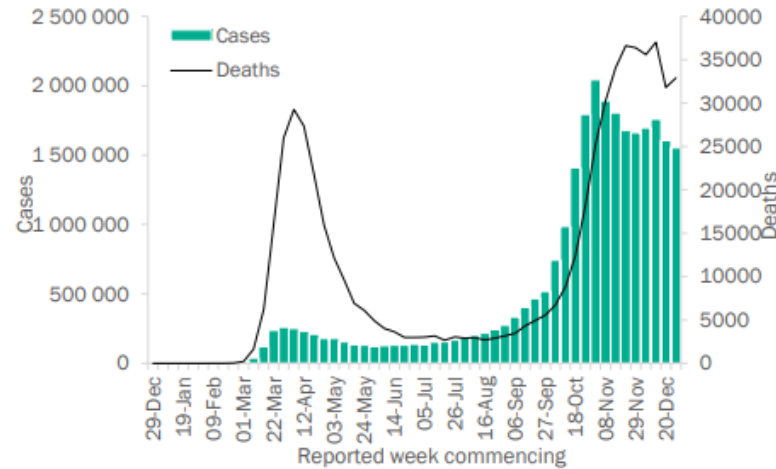
Source: WHO

Number of COVID-19 cases reported weekly by WHO Region, and global deaths, as of 3 January 2021

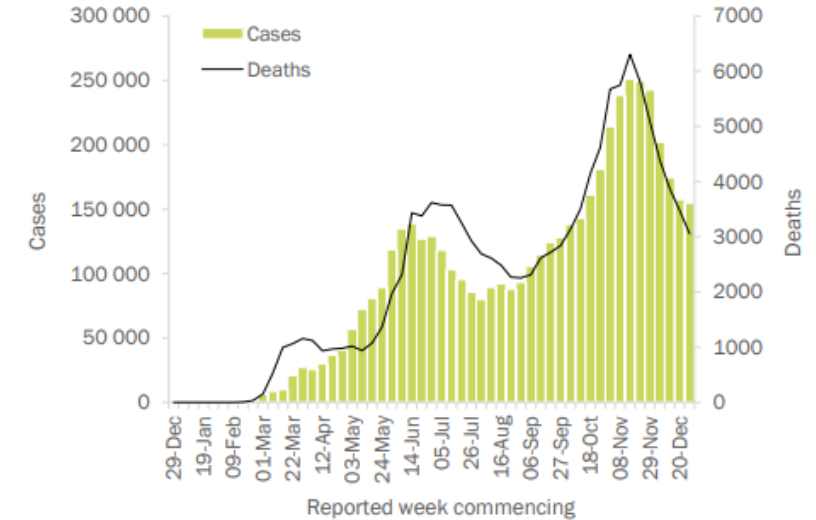
Americas



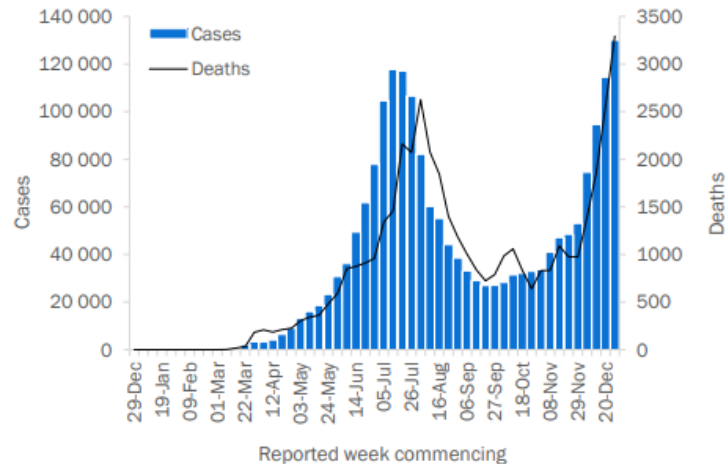
Europe



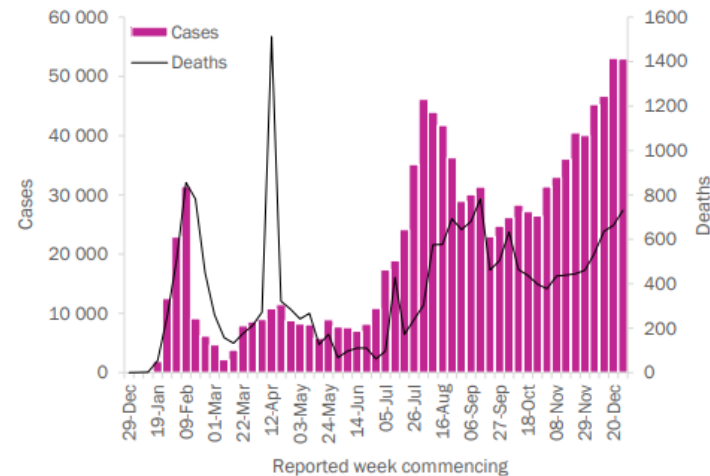
Eastern Mediterranean



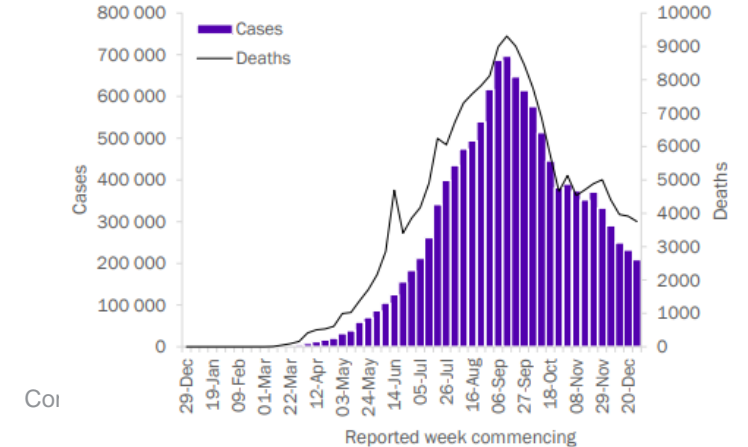
Africa



Western Pacific



South-East Asia

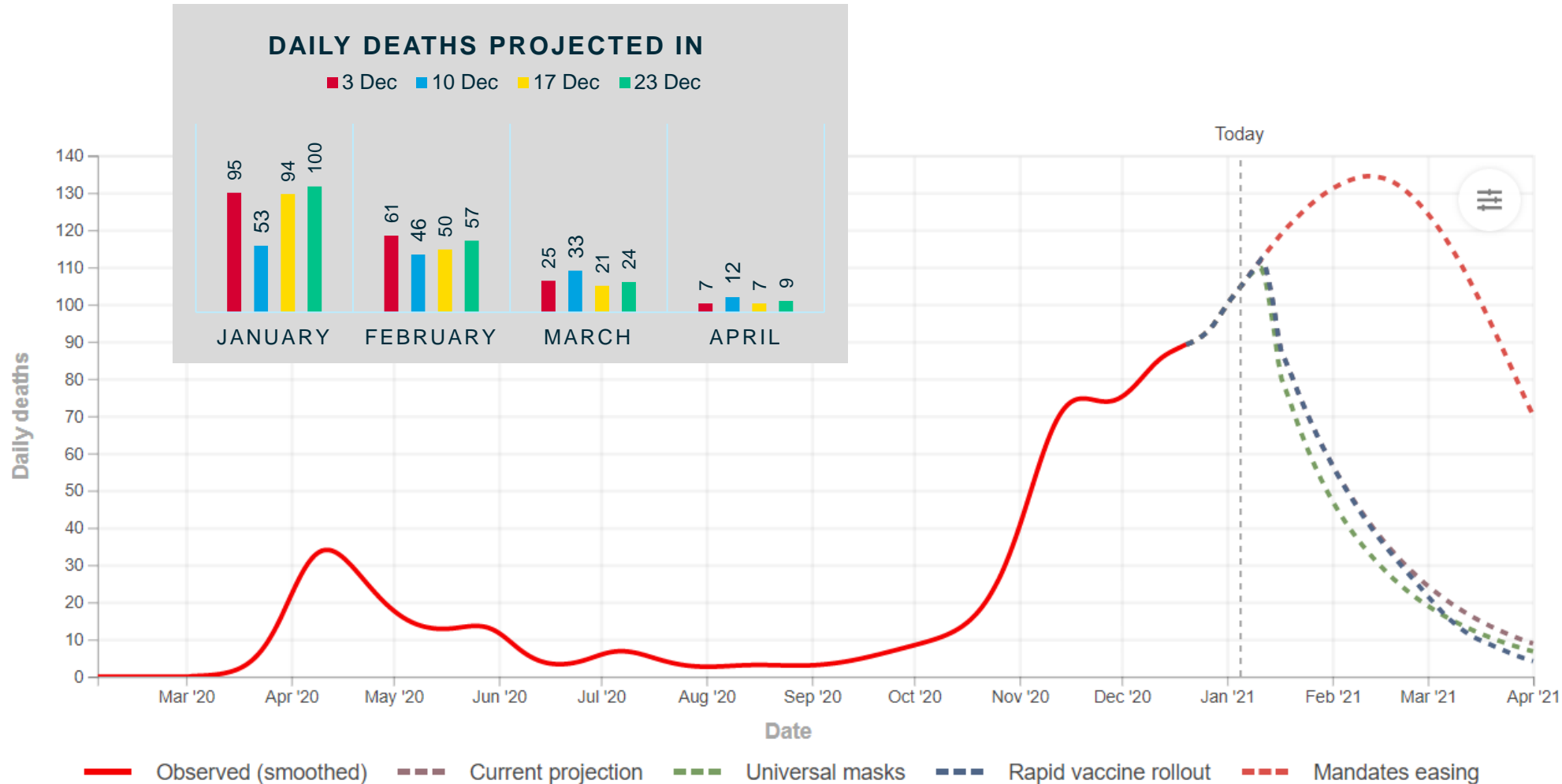


Portugal

Covid-19 Daily Deaths Projections in Portugal

4 Jan 2021
78 deaths
Projected: 77-142

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



Current projection : Vaccine distribution is scaled up over 90 days.

Universal masks : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.

Rapid vaccine rollout : Vaccine distribution is scaled up over 45 days

Rapid vaccine rollout to high-risk : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.

Mandates easing : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.

No vaccine : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

**Projection
Daily Deaths**

For 1 April 2021

**23 Dec Projection: 9
(3-17)**

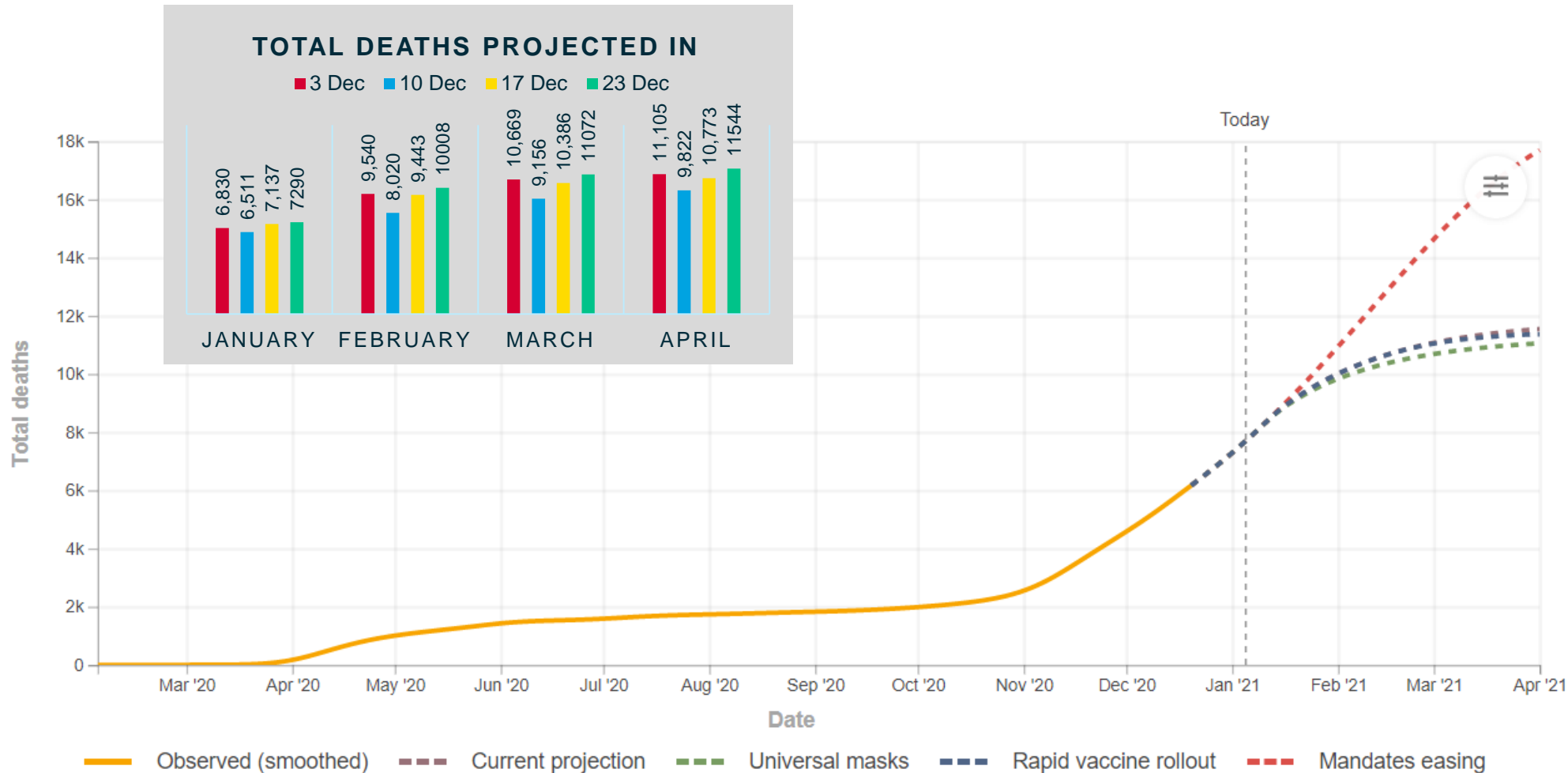
**Rapid Vaccine Rollout: 4
(1-8)**

Covid-19 Total Deaths Projections in Portugal

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.

4 Jan 2021
7,196 deaths
Projected: 7,312 – 7,969

- Current projection** : Vaccine distribution is scaled up over 90 days.
- Universal masks** : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.
- Rapid vaccine rollout** : Vaccine distribution is scaled up over 45 days
- Rapid vaccine rollout to high-risk** : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.
- Mandates easing** : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.
- No vaccine** : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.



Projection Total Deaths

For 1 April 2021

23 Dec Projection: 11,544
(10,342-13,185)

Rapid Vaccine Rollout: 11,369
(10,244-13,019)

Covid-19 Daily Infection Projections in Portugal

4 Jan 2021
4,369 infections
Projected: 7,834 – 13,640

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.

Current projection : Vaccine distribution is scaled up over 90 days.

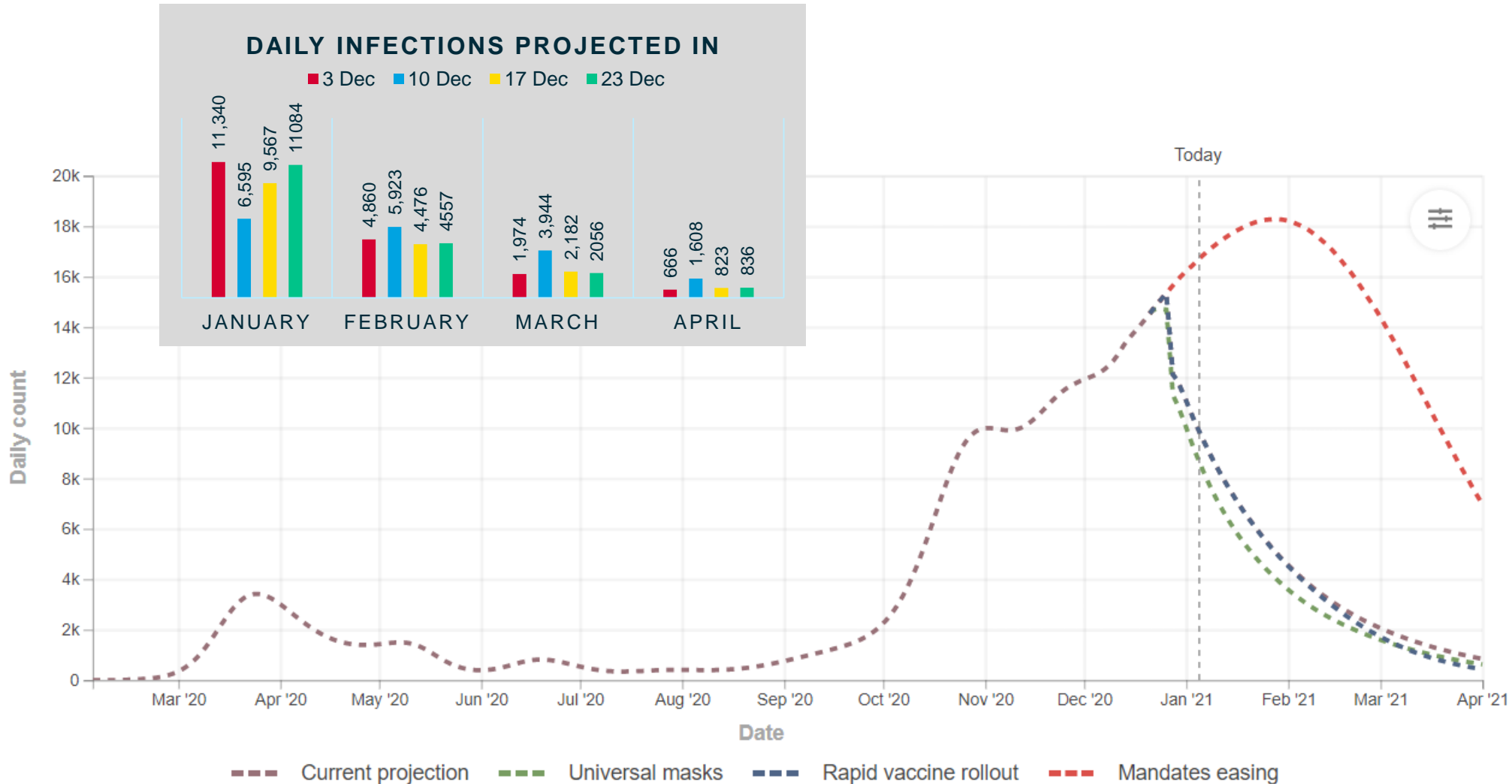
Universal masks : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.

Rapid vaccine rollout : Vaccine distribution is scaled up over 45 days

Rapid vaccine rollout to high-risk : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.

Mandates easing : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.

No vaccine : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.



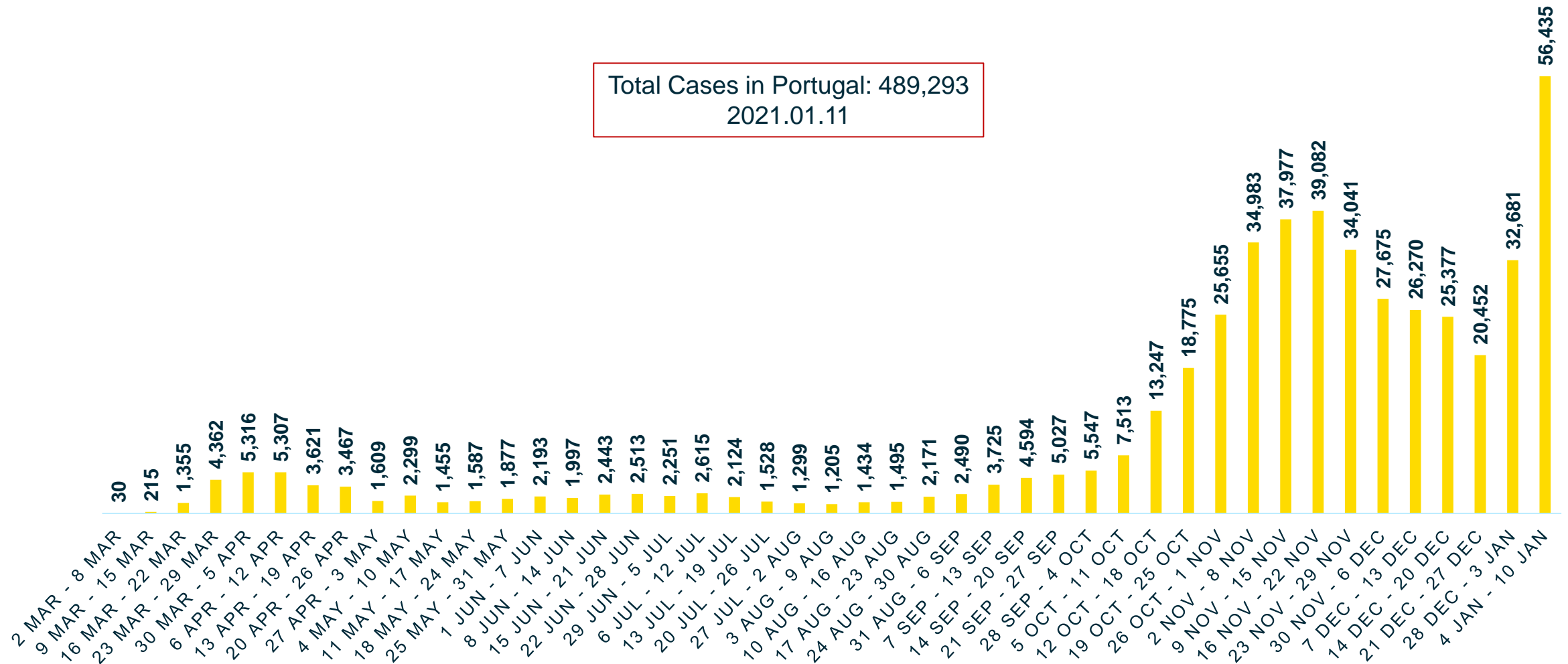
Projection Daily Infections

For 1 April 2021

23 Dec Projection: 836
(189-1,831)

Rapid Vaccine Rollout: 424
(82-955)

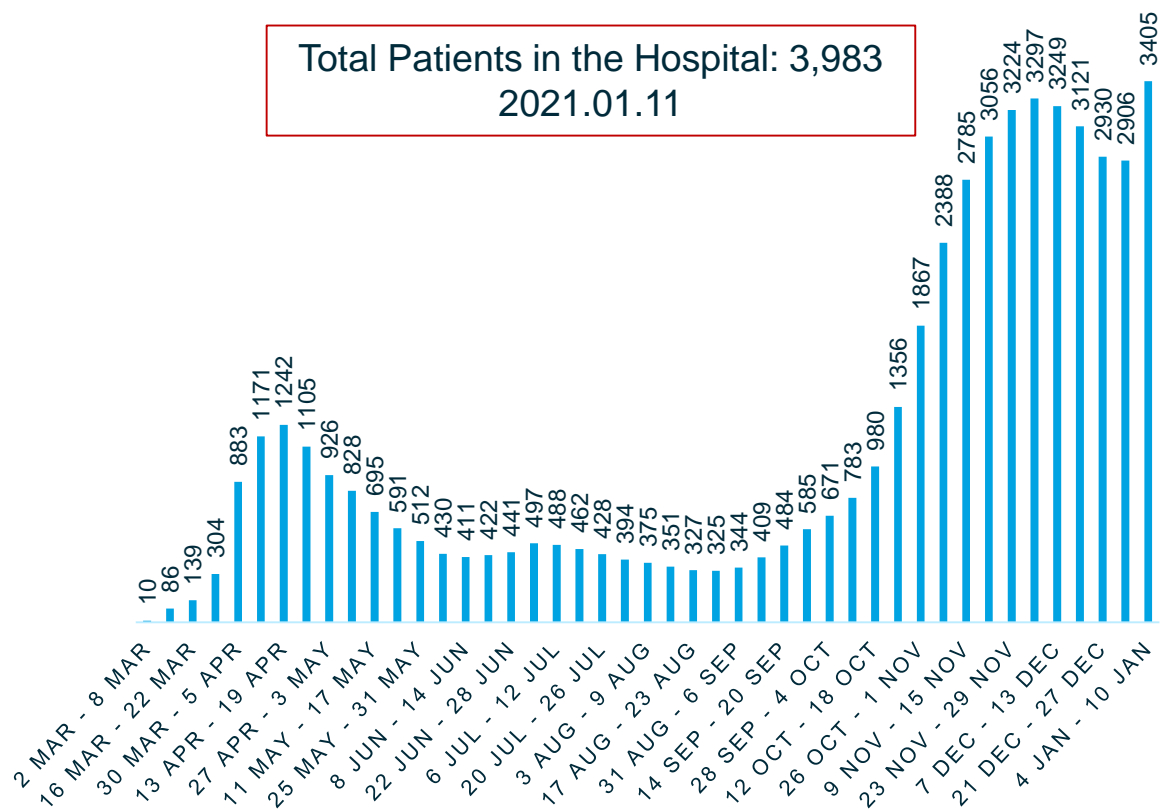
Coronavirus (SARS-CoV-2 / COVID 19) – Portugal – New cases per week



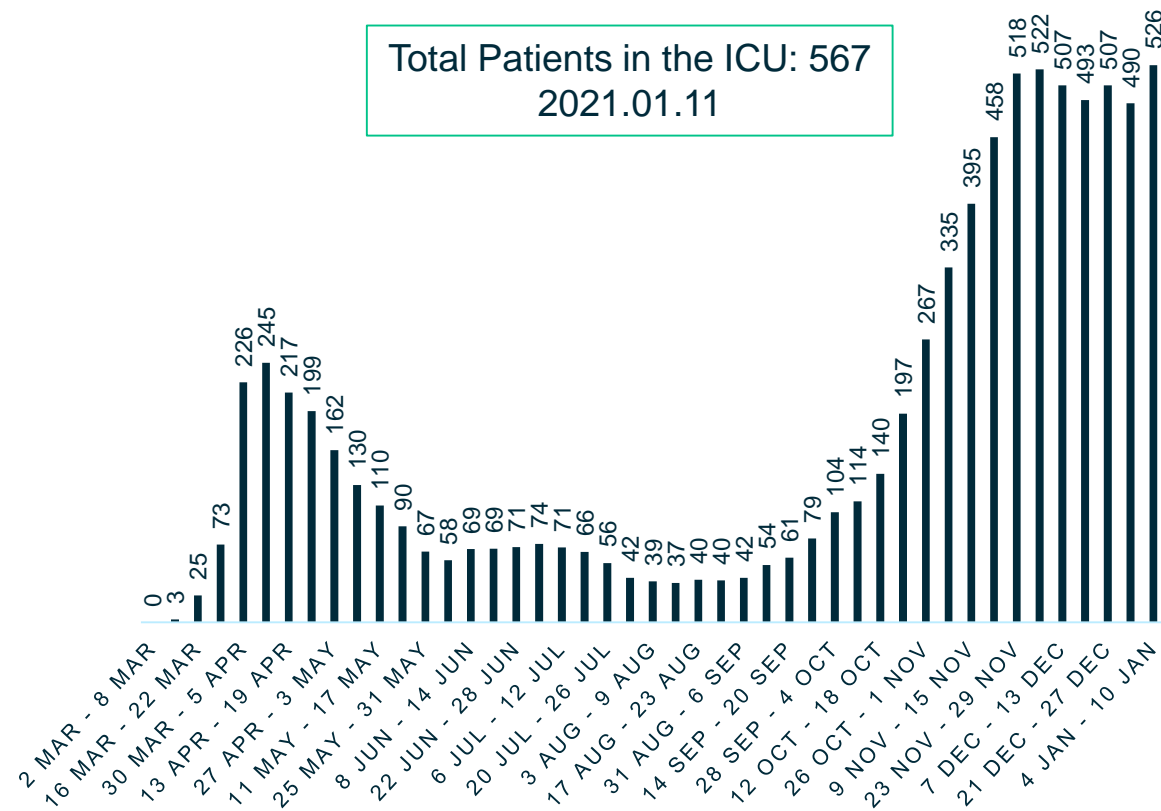
Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – Portugal – Hospital stable/ICU per week

■ Average # of Patients stable in the Hospital per week

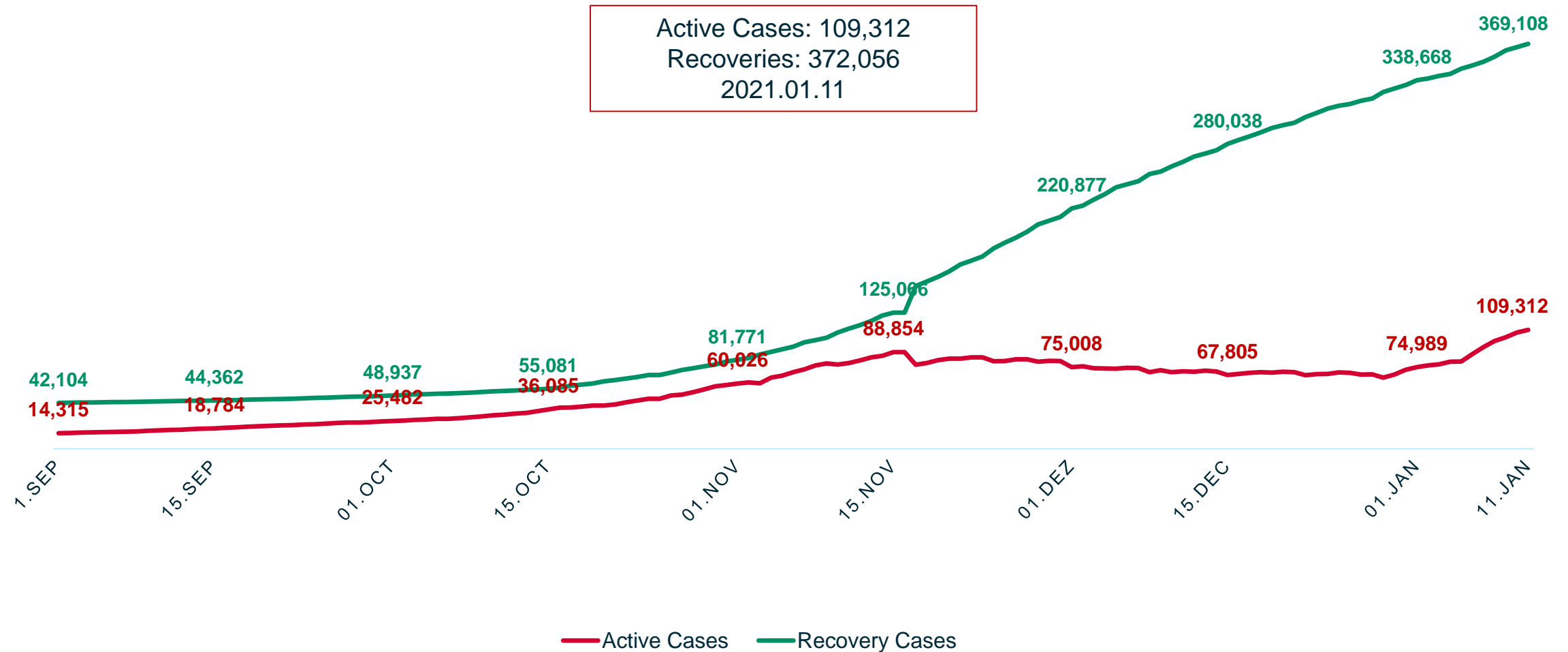


■ Average # of Patients in the ICU per week



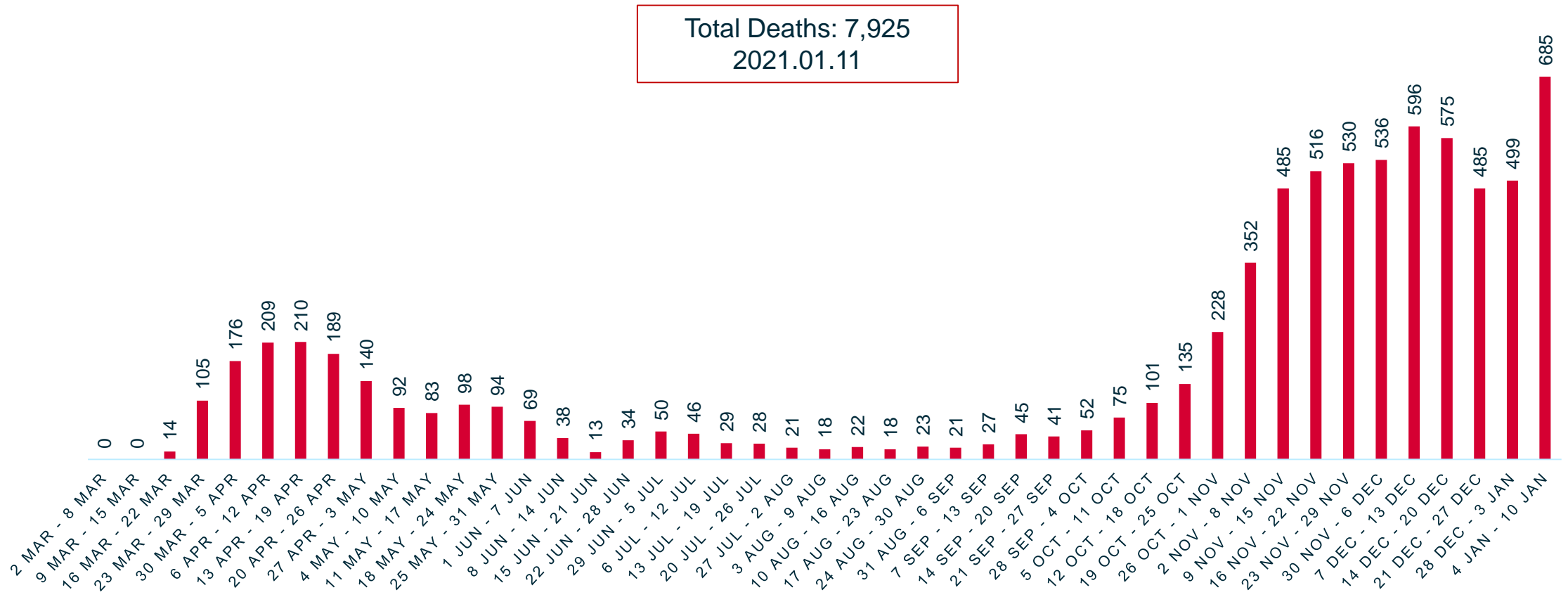
Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – Portugal – Active cases vs Recoveries



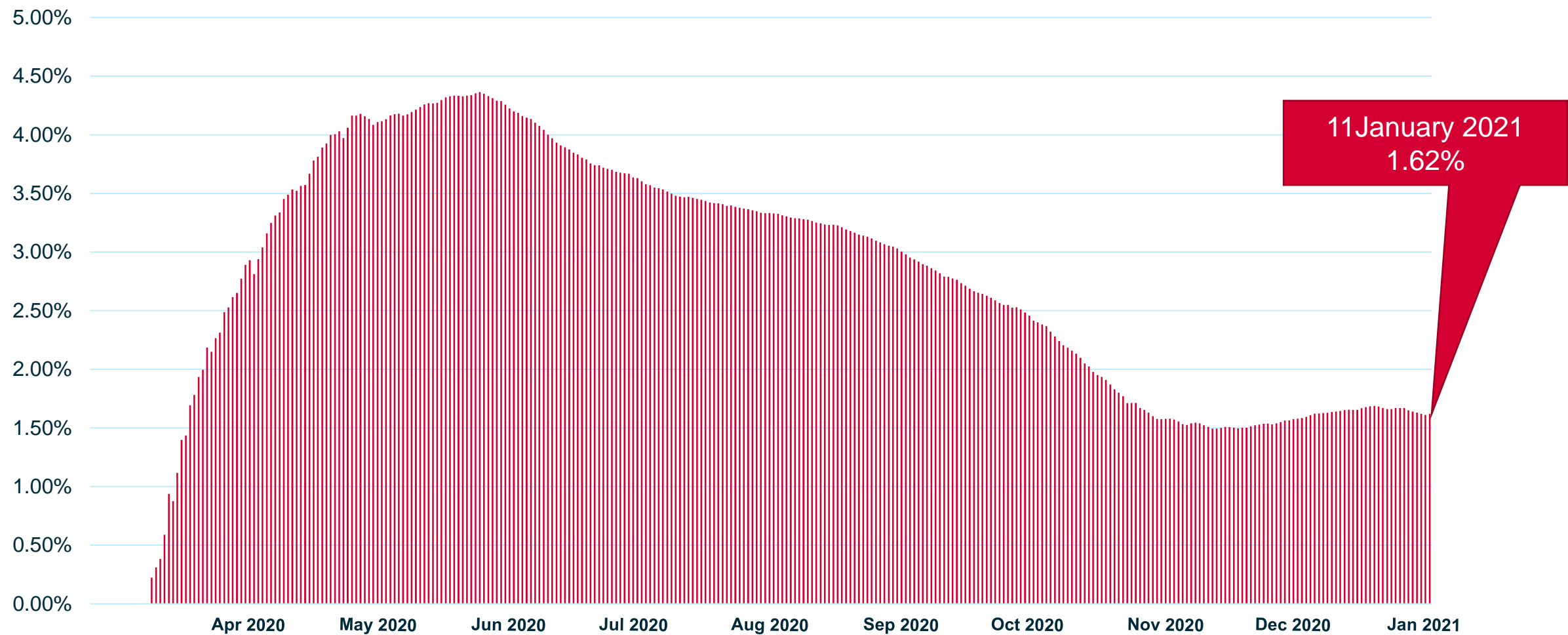
Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – Portugal – New deaths per week



Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

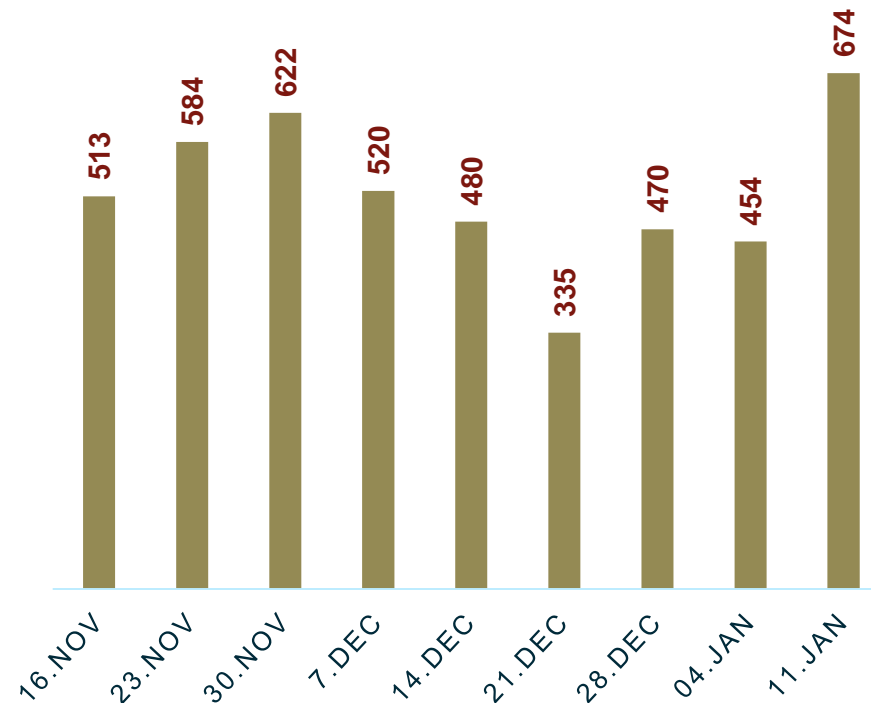
Portugal – Fatality Rate



Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – Loures

New Cases per 100,000 population



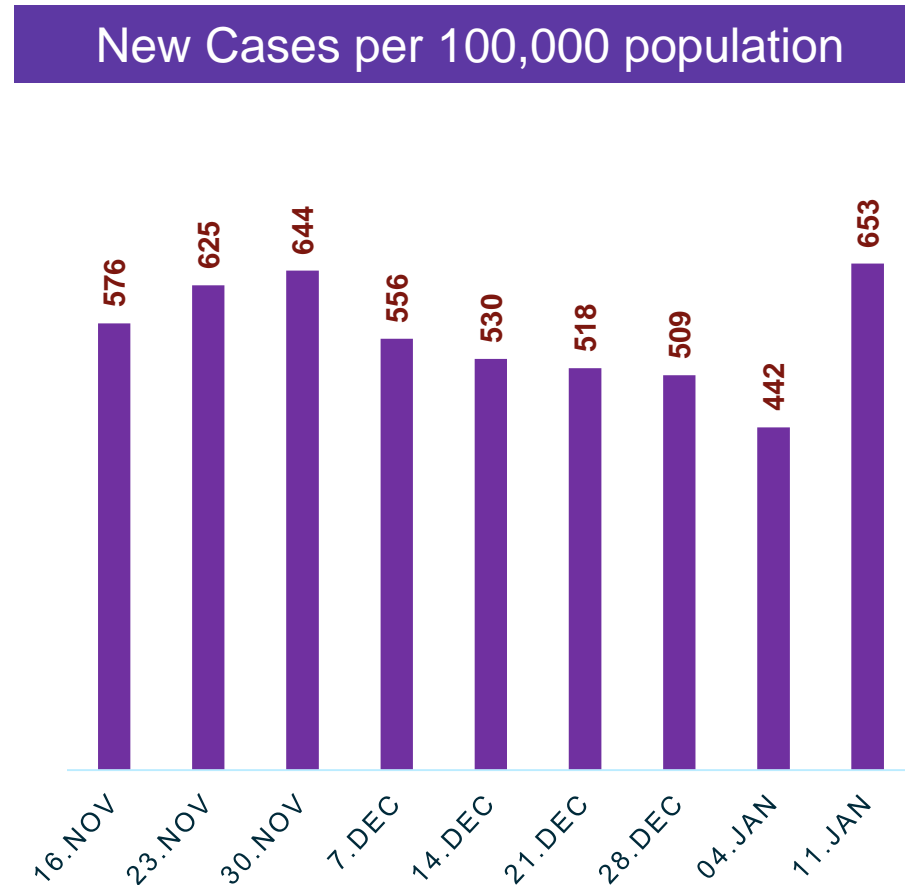
Very High Risk



<20
20 - 59,9
60 - 119,9
120 - 239,9
240 - 479,9
480 - 959,9
≥960

Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – Lisbon



Very High Risk

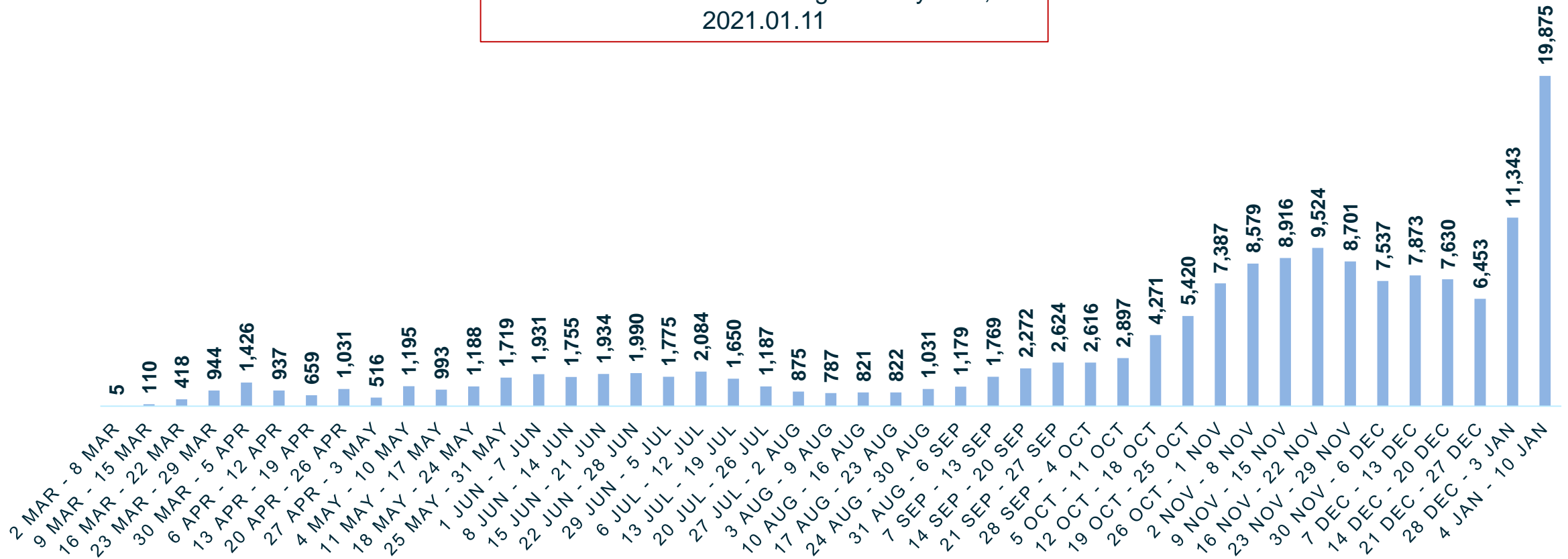


<20
20 - 59,9
60 - 119,9
120 - 239,9
240 - 479,9
480 - 959,9
≥960

Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

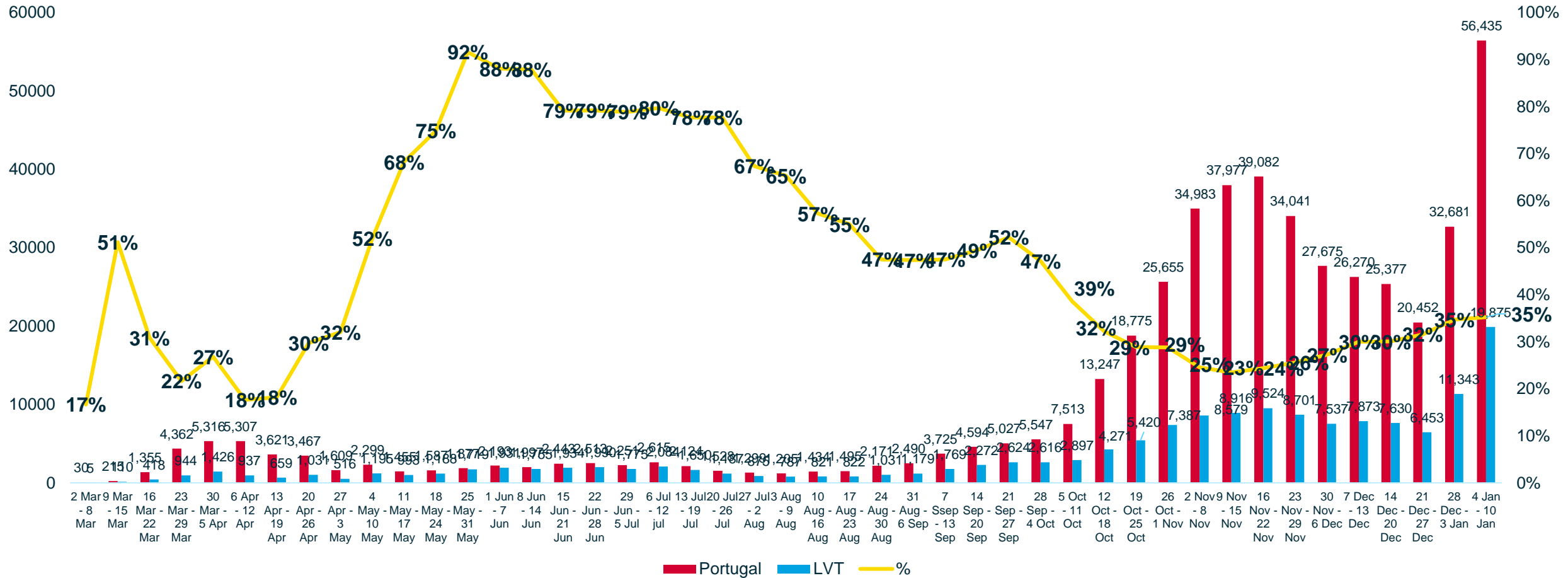
Coronavirus (SARS-CoV-2 / COVID 19) – Lisbon and Tagus Valley - New cases per week

Total Cases in Lisbon and Tagus Valley: 160,553
2021.01.11



Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19) – % of new cases in Lisbon and Tagus Valley - New cases per week

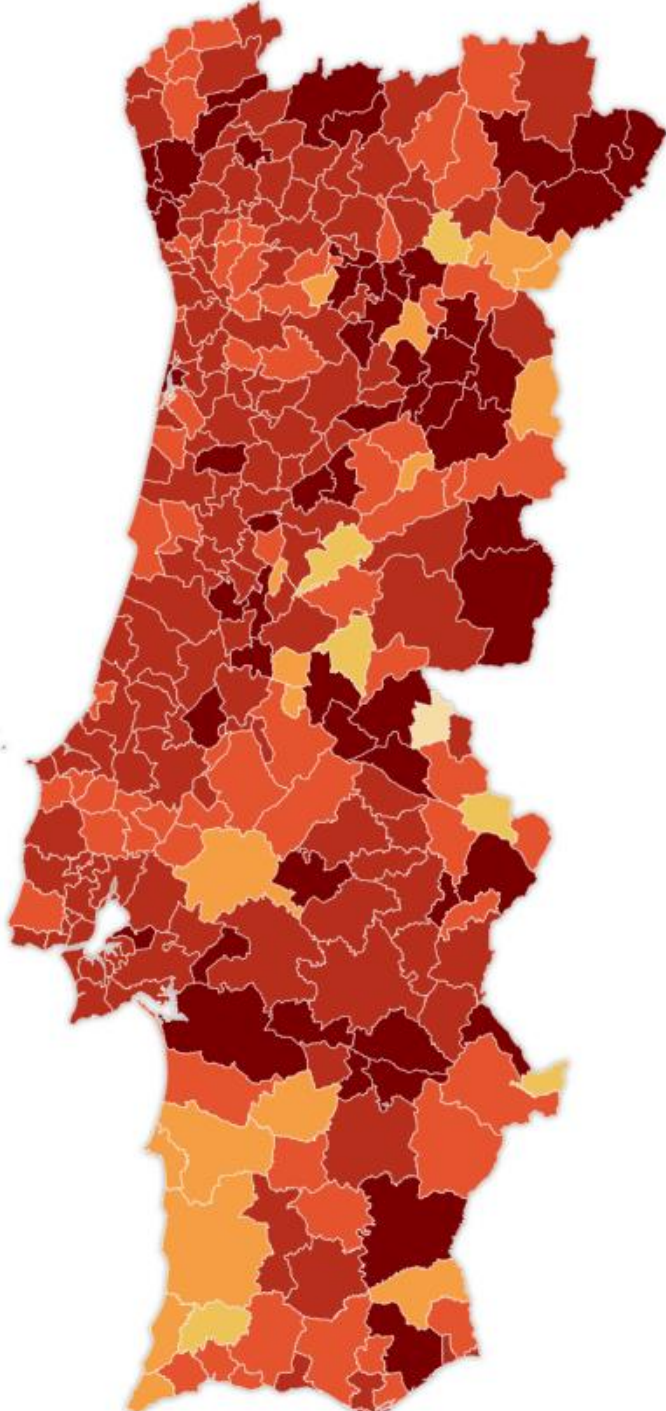


Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus - (SARS-CoV-2 / COVID 19)

Portugal - cases per 100.000

11 January 2021



<20	
20 - 59,9	
60 - 119,9	
120 - 239,9	Moderate Risk
240 - 479,9	High Risk
480 - 959,9	Very High Risk
≥960	Extremely High Risk

11 January 2021

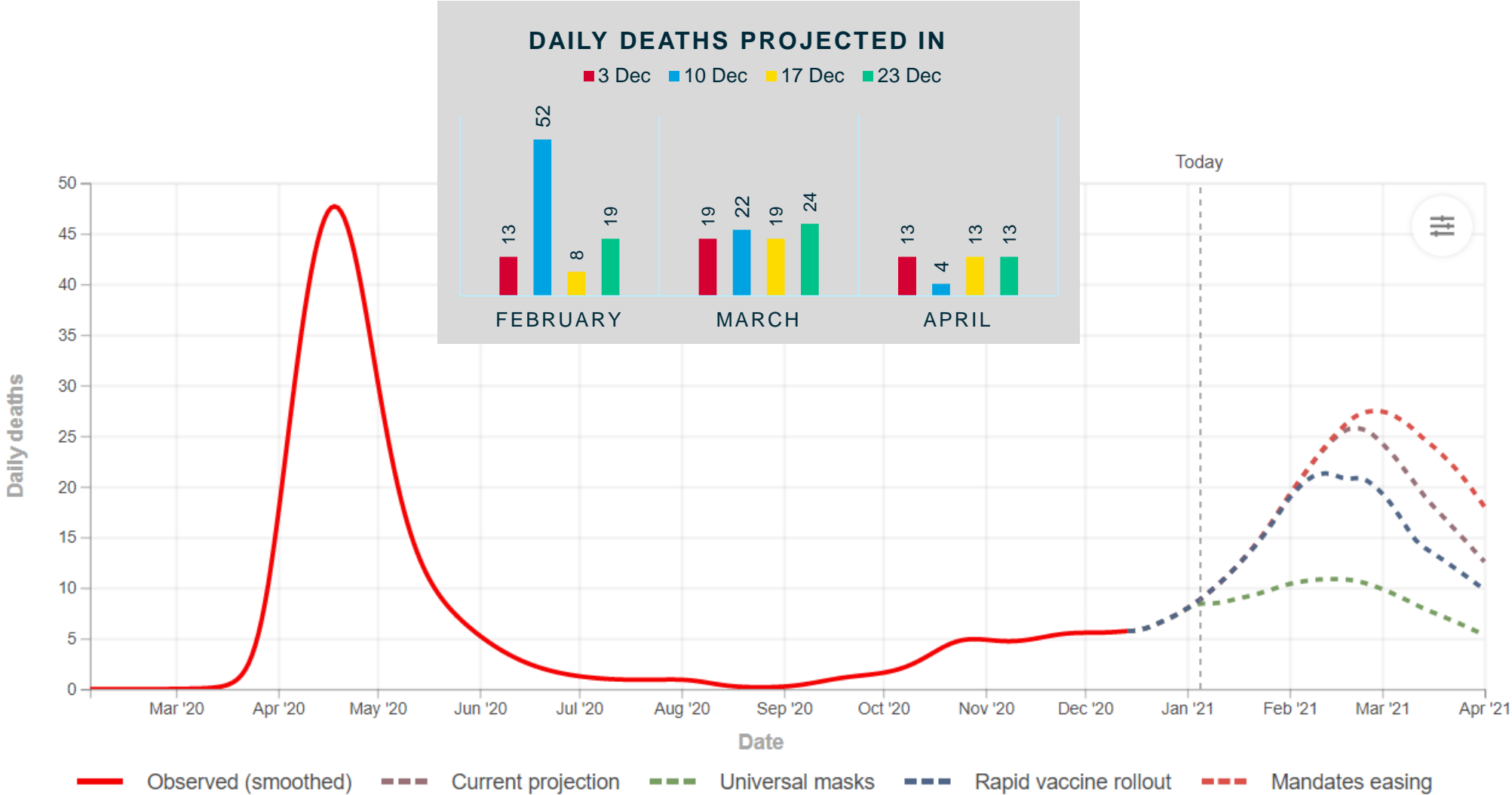
Very High Risk	Loures 674
Very High Risk	Lisbon 653

Ireland

Covid-19 Daily Deaths Projections in Ireland

4 January 2021
6 deaths
Projected: 4 - 16

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



- Current projection** : Vaccine distribution is scaled up over 90 days.
- Universal masks** : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.
- Rapid vaccine rollout** : Vaccine distribution is scaled up over 45 days
- Rapid vaccine rollout to high-risk** : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.
- Mandates easing** : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.
- No vaccine** : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Daily Deaths

For 1 April 2021

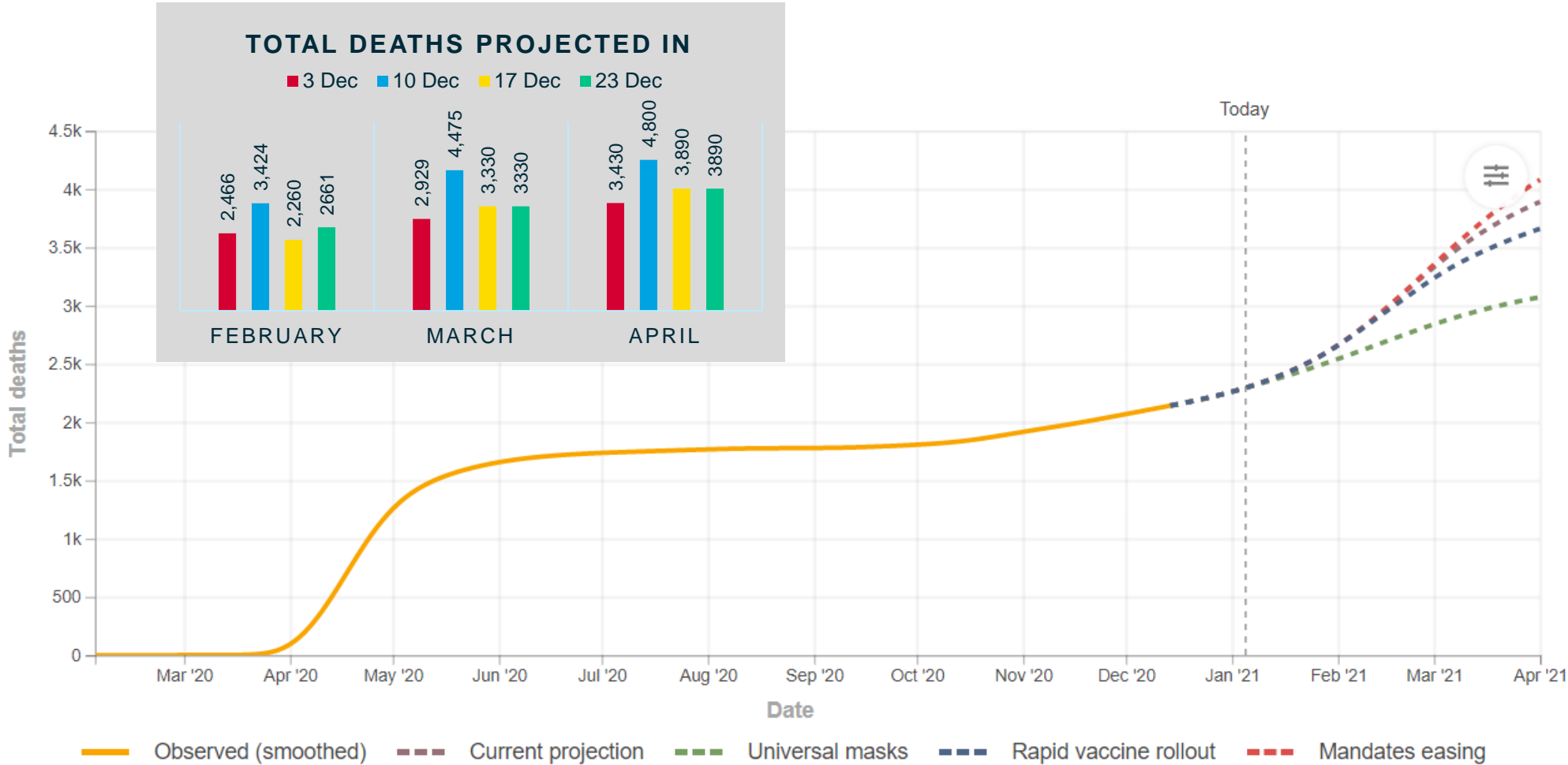
23 Dec Projection: 13 (4-28)

Rapid Vaccine Rollout: 10 (2-22)

Covid-19 Total Deaths Projections in Ireland

4 January 2021
2,265 deaths
Projected: 2,231 – 2,380

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



- Current projection** : Vaccine distribution is scaled up over 90 days.
- Universal masks** : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.
- Rapid vaccine rollout** : Vaccine distribution is scaled up over 45 days
- Rapid vaccine rollout to high-risk** : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.
- Mandates easing** : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.
- No vaccine** : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Total Deaths

For 1 April 2021

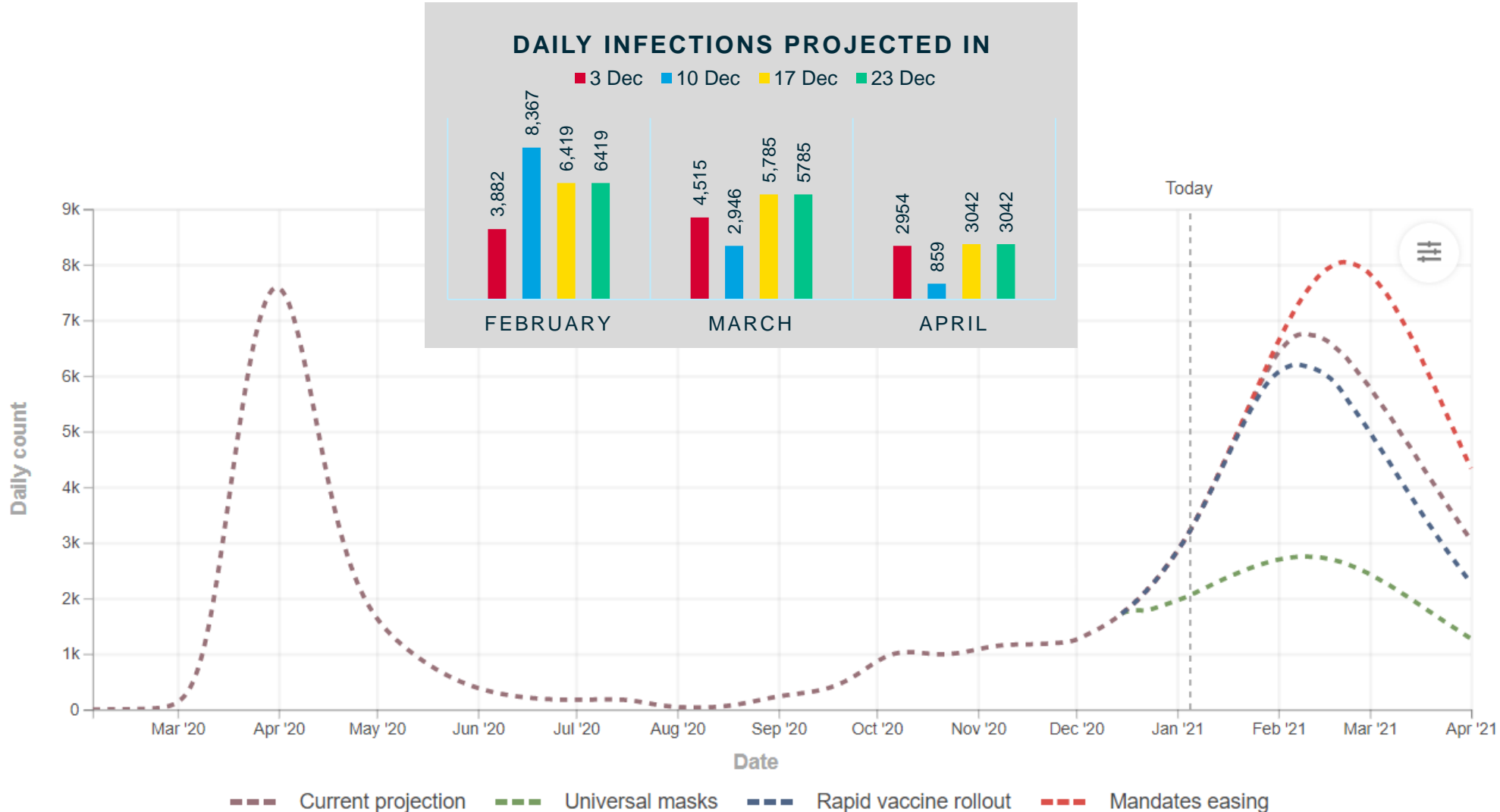
23 Dec Projection: 3,890
(2,812-4,840)

Rapid Vaccine Rollout: 3,659
(2,712-4,684)

Covid-19 Daily Infection Projections in Ireland

4 January 2021
6,110 infections
Projected: 1,272 – 6,734

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



Current projection : Vaccine distribution is scaled up over 90 days.

Universal masks : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.

Rapid vaccine rollout : Vaccine distribution is scaled up over 45 days

Rapid vaccine rollout to high-risk : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.

Mandates easing : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.

No vaccine : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Daily Infections

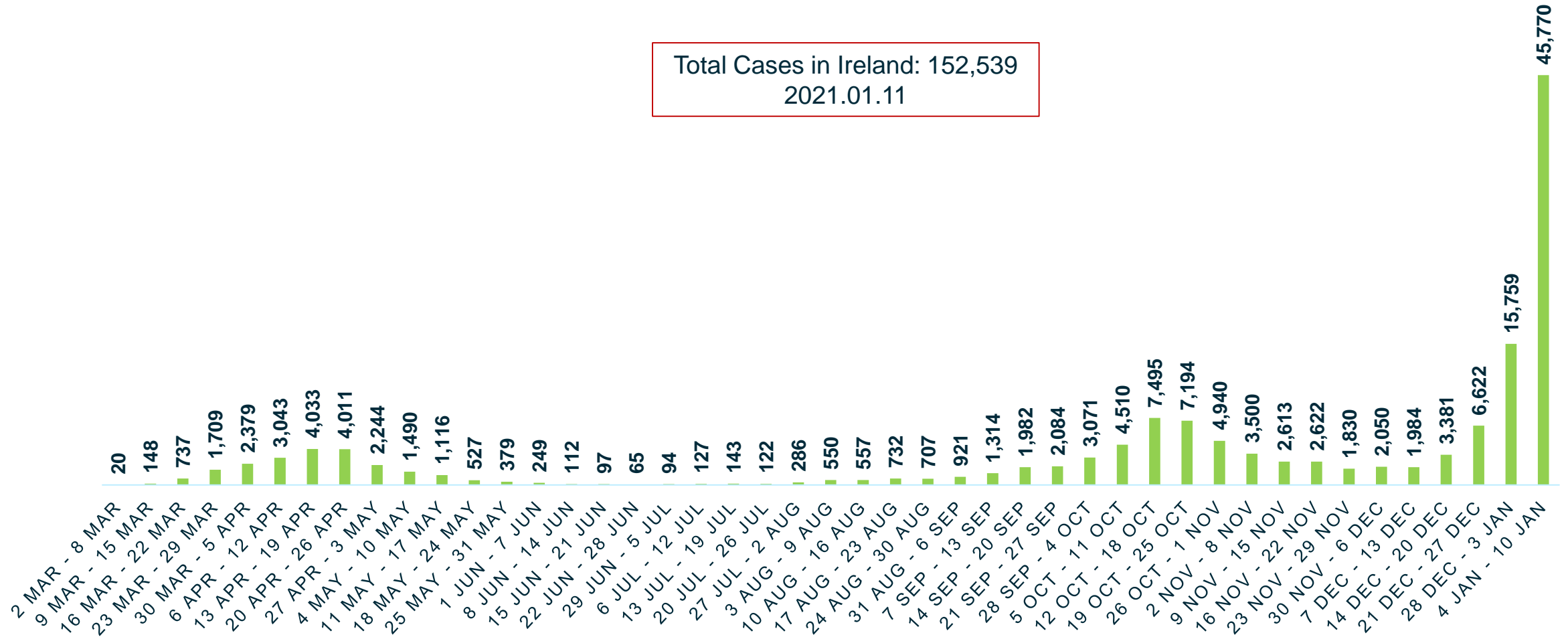
For 1 April 2021

23 Dec Projection: 3,042
(476-7,336)

Rapid Vaccine Rollout: 2,276
(301-5,382)

Coronavirus (SARS-CoV-2 / COVID 19) – Ireland - New cases per week

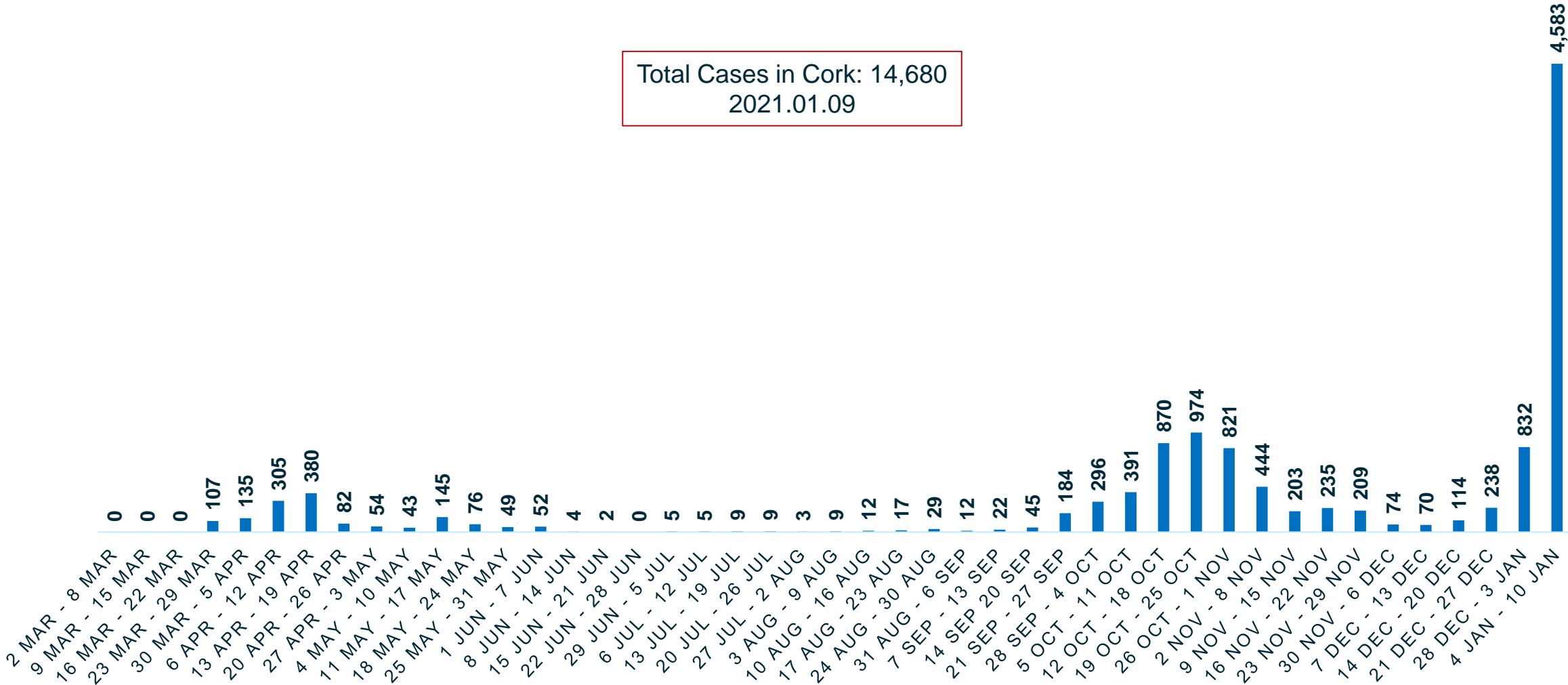
Total Cases in Ireland: 152,539
2021.01.11



Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

Coronavirus (SARS-CoV-2 / COVID 19)) – **Cork** - New cases per week

Total Cases in Cork: 14,680
2021.01.09



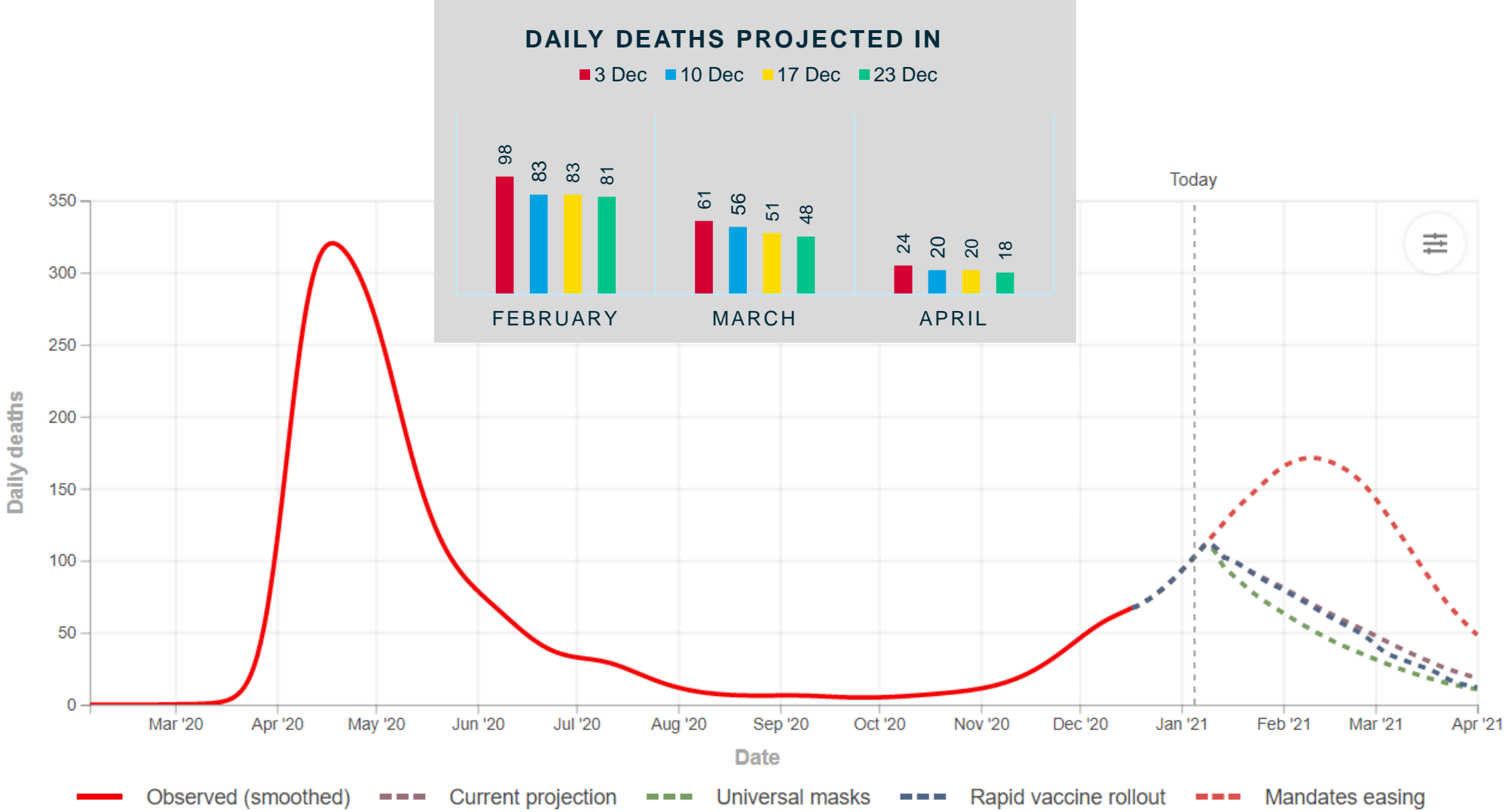
Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

New Jersey

Covid-19 Daily Deaths Projections in New Jersey

4 January 2021
36 deaths
Projected: 62 - 163

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



- Current projection** : Vaccine distribution is scaled up over 90 days.
- Universal masks** : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.
- Rapid vaccine rollout** : Vaccine distribution is scaled up over 45 days
- Rapid vaccine rollout to high-risk** : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.
- Mandates easing** : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.
- No vaccine** : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Daily Deaths

For 1 April 2021

23 Dec Projection: 18 (10-28)

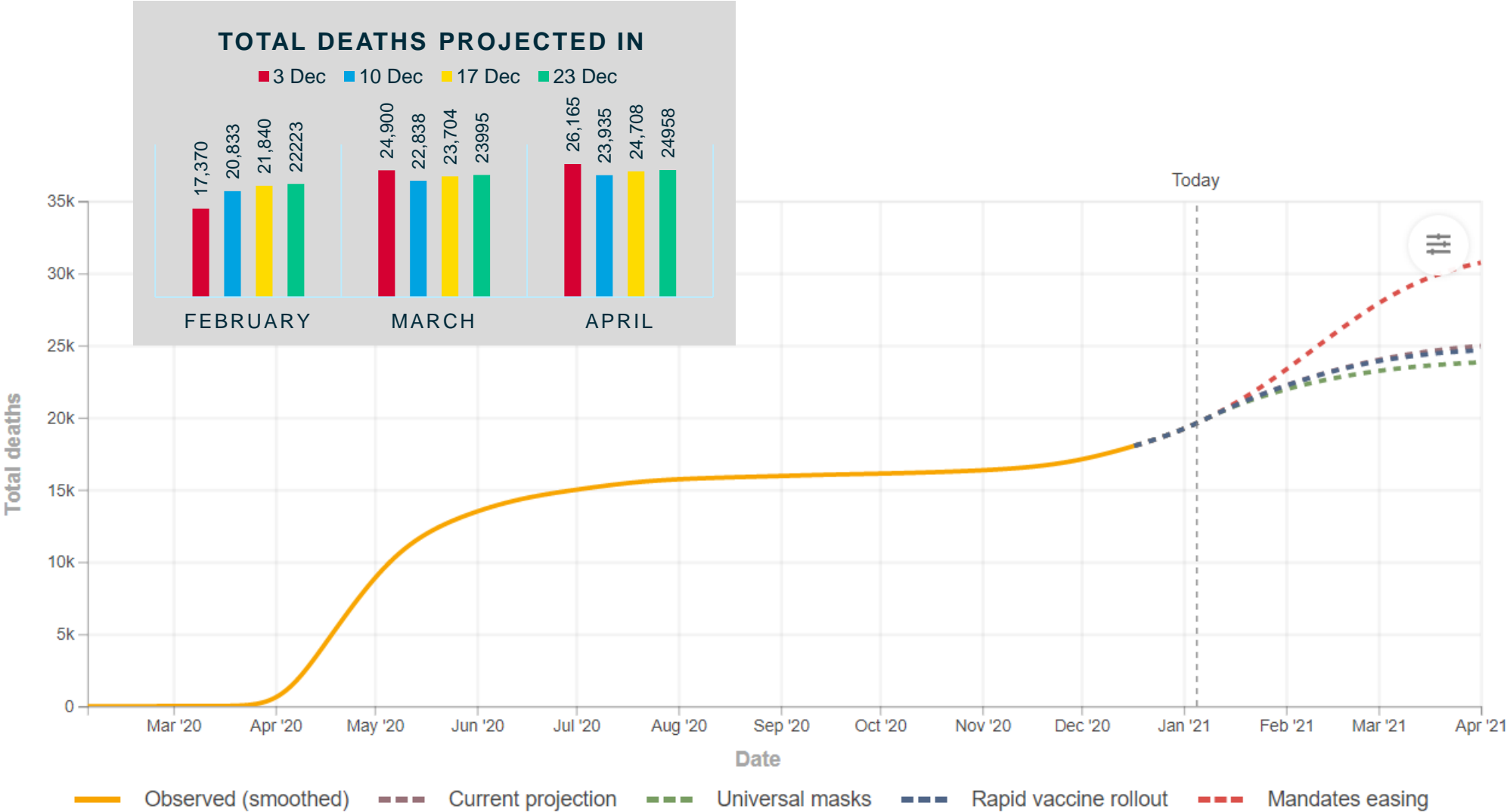
Rapid Vaccine Rollout: 12 (6-19)

Source: Institute for Health Metrics and Evaluation / University of Washington - <https://covid19.healthdata.org/portugal?view=daily-deaths&tab=trend>

Covid-19 Total Deaths Projections in New Jersey

4 January 2021
17,223 deaths
Projected: 19,063 – 20,063

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



- Current projection** : Vaccine distribution is scaled up over 90 days.
- Universal masks** : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.
- Rapid vaccine rollout** : Vaccine distribution is scaled up over 45 days
- Rapid vaccine rollout to high-risk** : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.
- Mandates easing** : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.
- No vaccine** : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Total Deaths

For 1 April 2021

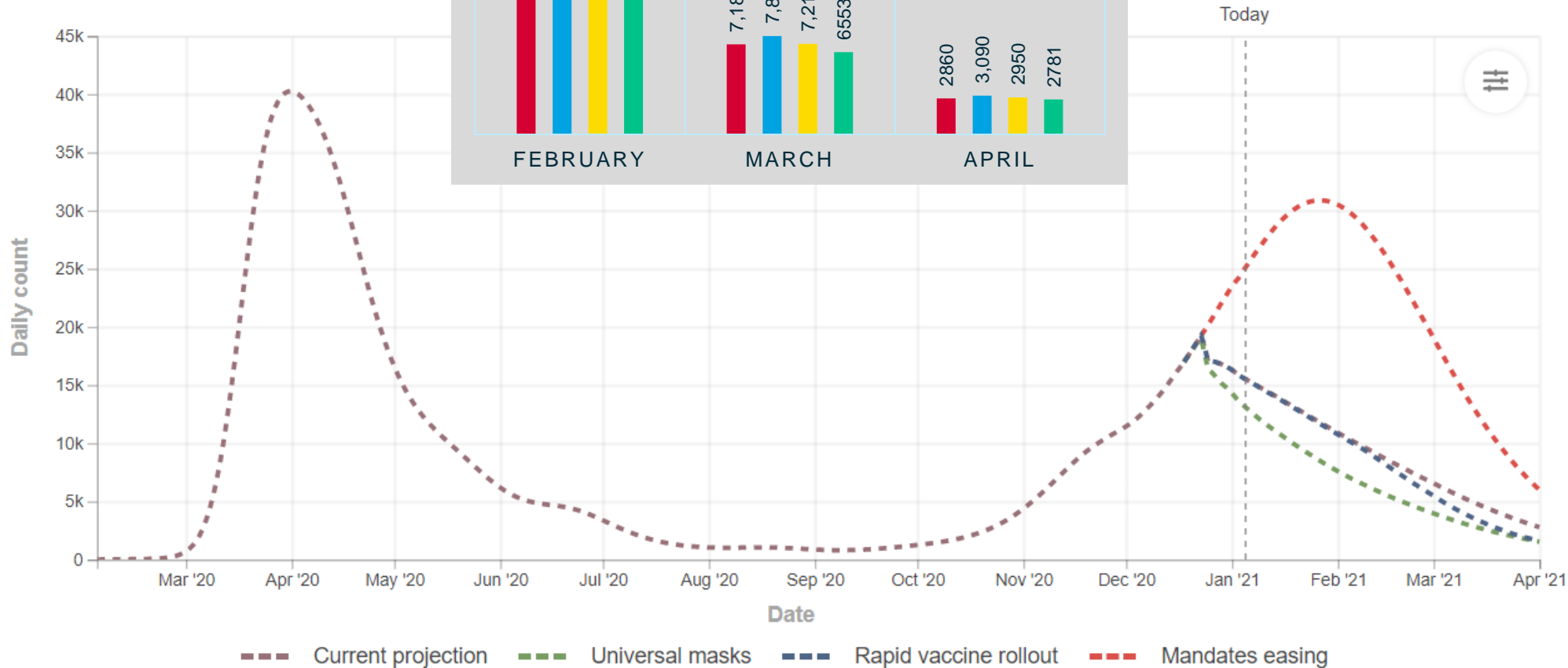
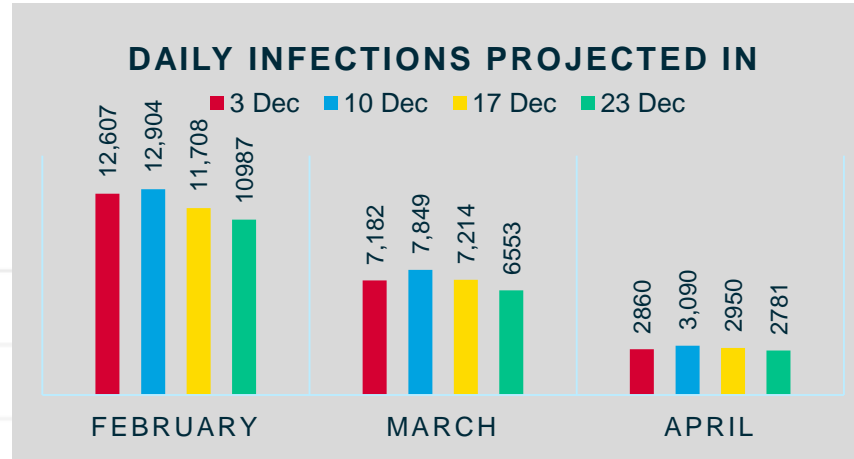
23 Dec Projection: 24,958
(23,226-27,338)

Rapid Vaccine Rollout: 24,657
(23,037-26,987)

Covid-19 Daily Infection Projections in New Jersey

4 January 2021
2,275 infections
Projected: 11,789 – 22,558

Due to significant delays in death reporting during and following the holidays, our estimates will not be updated for the week of Jan 4.



Current projection : Vaccine distribution is scaled up over 90 days.

Universal masks : Vaccine distribution is scaled up over 90 days. 95% mask usage is adopted in public.

Rapid vaccine rollout : Vaccine distribution is scaled up over 45 days.

Rapid vaccine rollout to high-risk : Vaccine distribution is scaled up over 45 days. Vaccines are initially distributed to high-risk populations, followed by essential workers, and then all other adults.

Mandates easing : Vaccine distribution is scaled up over 90 days. Governments do not re-impose mandates if cases increase.

No vaccine : Assumes there is no vaccine distribution. Mask use and mandates continue at current levels.

Projection Daily Infections

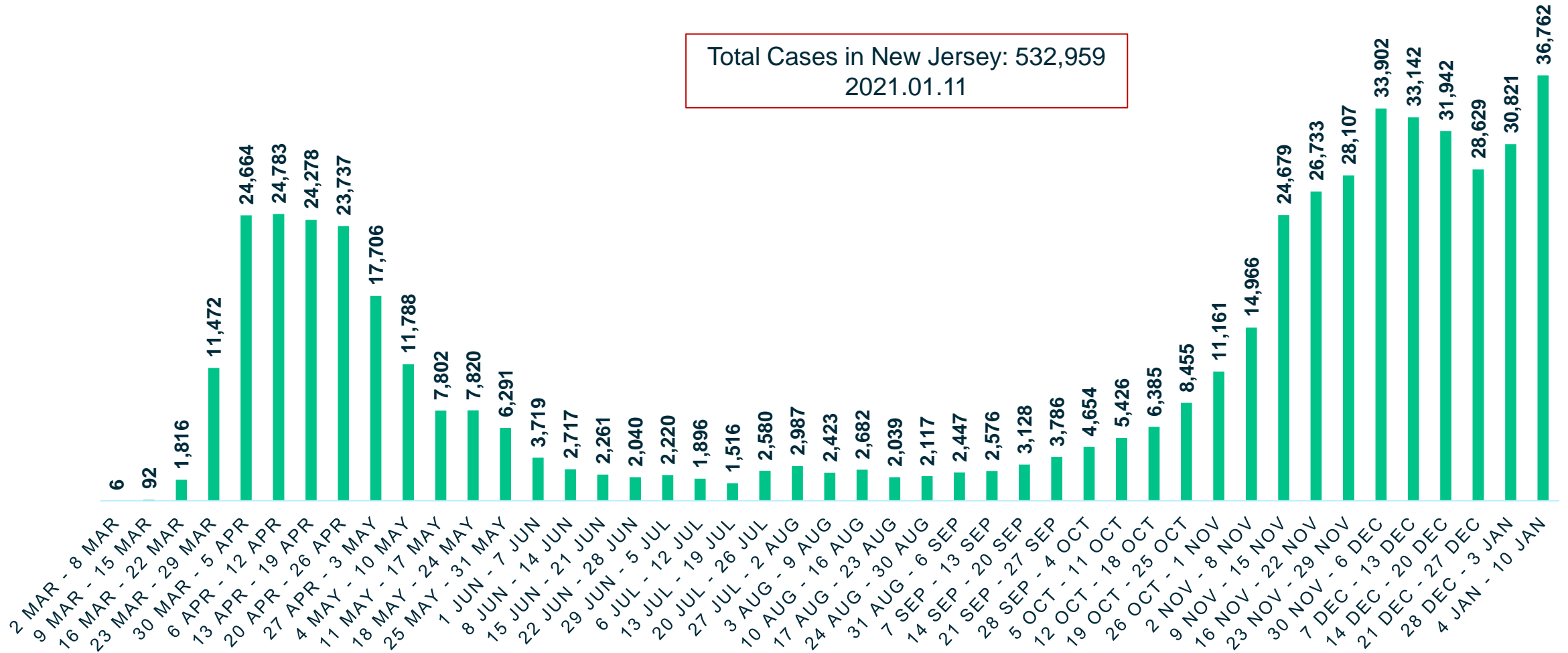
For 1 April 2021

23 Dec Projection: 2,781
(1,167 - 4,578)

Rapid Vaccine Rollout: 1,609
(613-2,829)

Coronavirus (SARS-CoV-2 / COVID 19)) – **New Jersey** - New cases per week

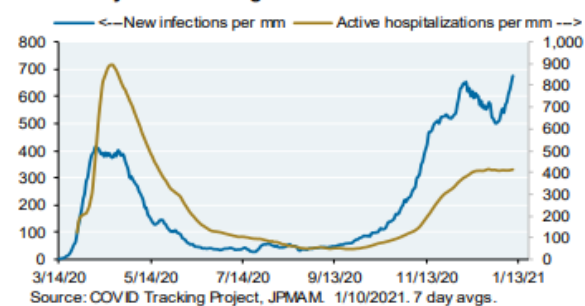
Total Cases in New Jersey: 532,959
2021.01.11



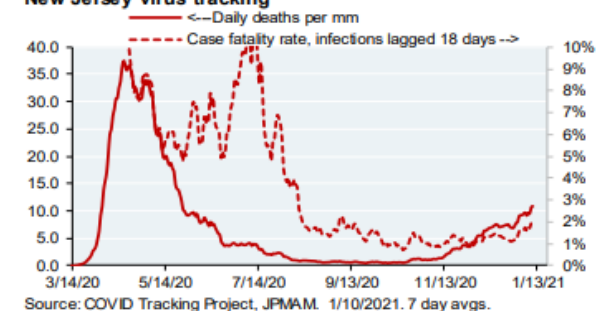
Source: <https://covid19.min-saude.pt/ponto-de-situacao-atual-em-portugal/>

New Jersey Coronavirus tracking

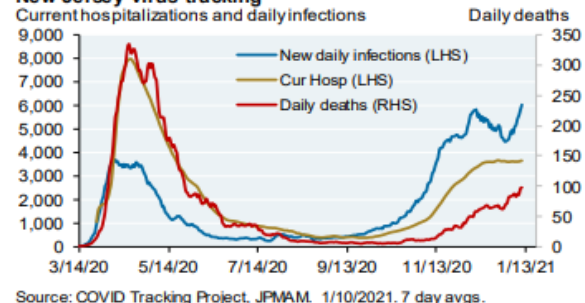
New Jersey virus tracking



New Jersey virus tracking



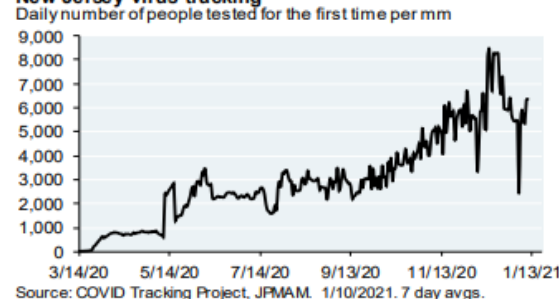
New Jersey virus tracking



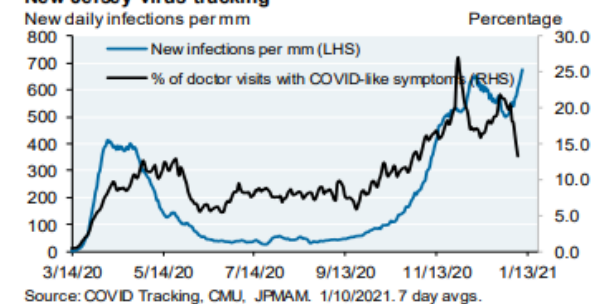
New Jersey virus tracking



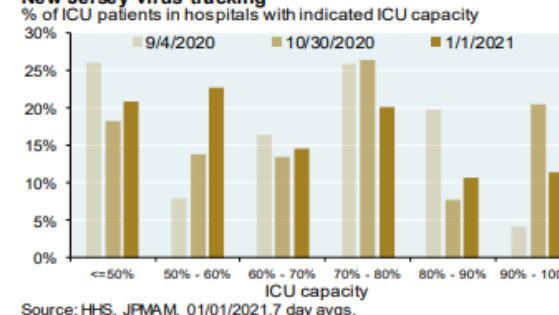
New Jersey virus tracking



New Jersey virus tracking



New Jersey virus tracking



Recent News

Latest News

- DalCor announced the launch of dal-COVID, a **Phase II proof-of-concept study for Dalcetrapib as an oral anti-viral treatment for Covid-19**. Dalcetrapib binds to the catalytic site of 3CLMpro of the SARS-CoV-2 virus, thereby impeding its activity and viral reproduction. dal-COVID is a double-blind, placebo-controlled trial to be conducted in mild to moderate symptomatic Covid-19 patients.
- **Moderna has announced that the UK's Medicines and Healthcare products Regulatory Agency (MHRA) has approved Covid-19 Vaccine Moderna**, its mRNA vaccine candidate to fight the SARS-CoV-2 virus, under Regulation 174. The authorisation allows the Covid-19 Vaccine Moderna to be supplied to the UK on an emergency and temporary basis.
- Humanigen and Eversana have announced a **partnership to launch and commercialise Lenzilumab for treating hospitalised and hypoxic Covid-19 patients**. However, this would only occur after the US Food and Drug Administration (FDA) has issued an emergency use authorisation (EUA) for the recombinant monoclonal antibody.
- Biotech COVAXX has announced it has commenced **pre-clinical work, design and testing of a second vaccine candidate to address the recent SARS-CoV-2 viral mutations**, and particularly the South African variant.
- **Global economic output is expected to expand by four percent in 2021** but will still remain more than five percent below pre-pandemic trends.
- **The pandemic has forced governments and firms to adapt to a changing economic landscape**, where protecting the poor has become imperative, while at the same time having to build effective policies to allow labour, capital, and innovation for a greener and stronger post-Covid recovery.
- **The World Bank report also highlighted how investments have collapsed** in many emerging and developing economies in 2020 due to the virus crisis but will eventually resume in 2021.

Latest News (cont.)

- **BioNTech and Pfizer warned they had no evidence their vaccine would continue to work if the booster shot was given later than tested in trials.** They said the “safety and efficacy of the vaccine has not been evaluated on different dosing schedules”. The European Medicines Agency said the maximum interval between doses should be respected. It said the second dose should be administered no more than 42 days after the first.
- **Moderna Inc. said it will make at least 600 million doses of its Covid-19 vaccine in 2021**, with a goal of finishing the year with as many as 1 billion doses produced.
- **The European Union’s drug regulator said a decision on the safety and efficacy of Moderna Inc.’s Covid vaccine would come on Wednesday** at the earliest. There had been speculation that a decision would come during a meeting Monday, but a spokesman for the European Medicines Agency said the discussion had not concluded and will continue Wednesday. Approval would give the EU a second cleared shot, after one from Pfizer Inc. and BioNTech SE got the go-ahead in December.
- **Incidence of the new, more infectious strain of the coronavirus will rise sharply in the US over the next few months**, said former Food and Drug Administration chief Scott Gottlieb. “There are some estimates that the new variant probably represents about 1% of all infections in this country. By March, it’s going to be the majority of infections. It’s going to grow quickly,” Gottlieb said Sunday on CBS’s “Face the Nation.” The new variant has been found in at least three states after emerging in the UK.

Latest News (cont.)

- **Europe's medicines regulator approved the use of Pfizer/BioNTech vaccine.** The approval puts Europe on course to start inoculations within a week. EU countries including Germany, France, Austria and Italy have said they plan to start vaccinations from 27 December.
- The UK's chief scientific adviser, Patrick Vallance, warned the public to stay local to keep the new coronavirus strain in check, but said **some areas of England will face tighter restrictions with the variant likely to spread across the country.** Speaking at a press conference alongside Prime Minister Boris Johnson, who ordered London and much of southeast England into lockdown over the weekend, Vallance said **current vaccines should work against the latest Covid-19 mutation.**
- **An overnight curfew from 11pm will come into force in Portugal on New Year's Eve,** prime minister António Costa said, as the country introduces measures to reduce the spread of the coronavirus during the usually busy night.
- **The US Food and Drug Administration approves an emergency use authorisation for Moderna's COVID-19 vaccine, mRNA-1273.**
- **China is planning to distribute 100 million vaccines made by Sinopharm and Sinovac before Lunar New Year** to prevent coronavirus outbreaks during the holiday travel season, South China Morning Post reports, citing an unnamed health specialist "with knowledge of" a training meeting to prepare for mass inoculations. It is planning to vaccinate high-priority groups such as health workers, police officers and transport and logistic workers, while inoculations for the general public aren't expected to start until after the Chinese New Year.

Sources

- https://en.wikipedia.org/wiki/Timeline_of_the_2019%E2%80%9320_Wuhan_coronavirus_outbreak
- <https://www.seattletimes.com/seattle-news/health/coronavirus-timeline-how-the-outbreak-unfolded/>
- <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>
- <https://www.pharmaceutical-technology.com/news/coronavirus-a-timeline-of-how-the-deadly-outbreak-evolved/>
- <https://www.cphi-online.com/updated-covid19-pharma-tracker-news082415.html>
- <https://www.dgs.pt/em-destaque.aspx>