

Recent trends in ICU drug demand

- **9 months into the pandemic**
- **Thousands of papers have been published**
- **We are still learning about SARS-CoV-2/Covid-19**
- **Mortality/severity pattern has changed (could be connected with various factors, like: enhanced testing strategies, treatment options, infected age groups etc)**

Coronavirus Cases:

30,065,092

[view by country](#)

Deaths:

945,578

Recovered:

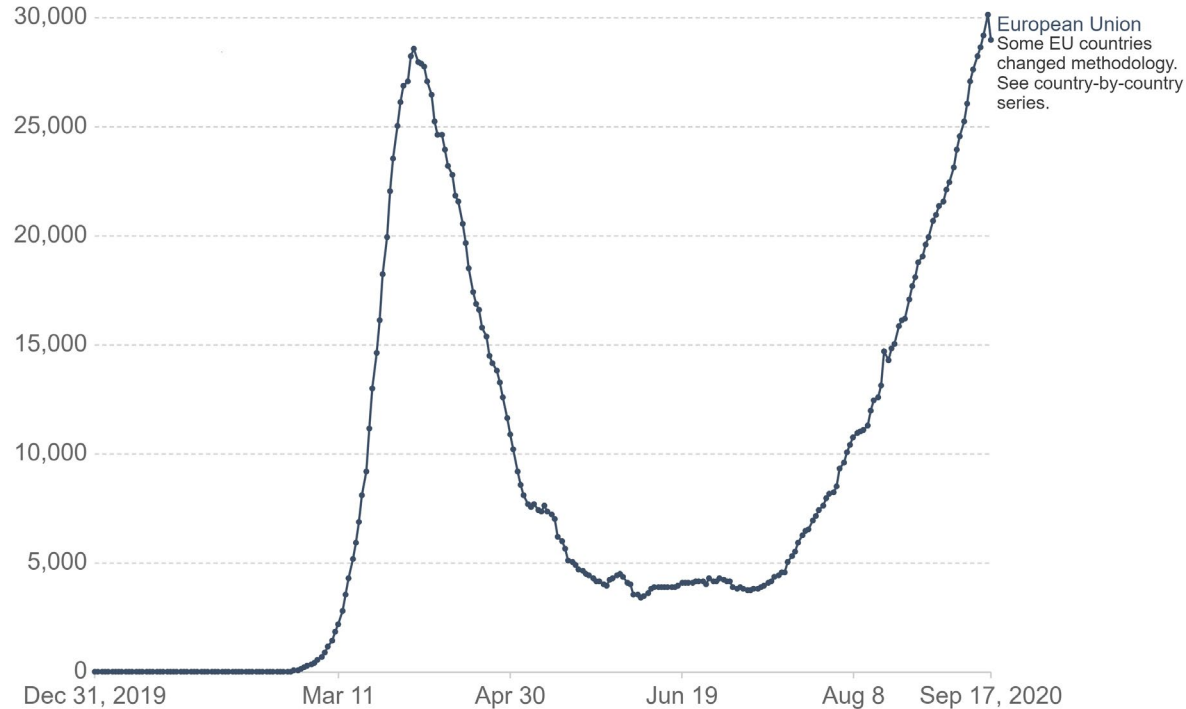
21,821,770

As per Worldometers on 2020-09-17 at 11.56 CEST

Daily new confirmed COVID-19 cases

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

Our World in Data

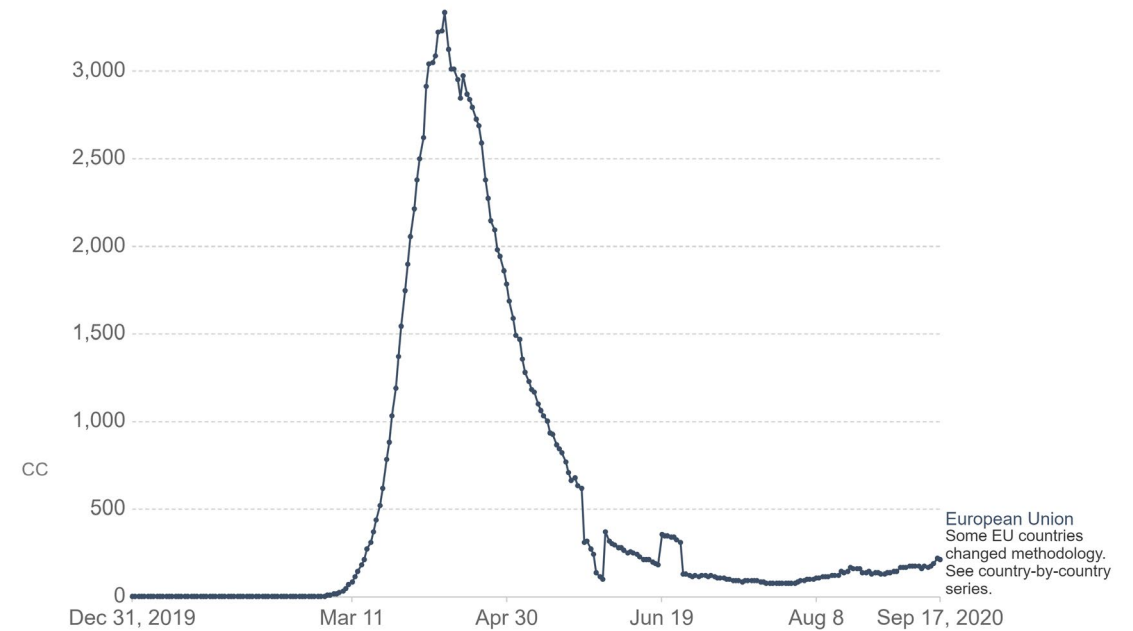


Source: European CDC – Situation Update Worldwide – Last updated 17 September, 10:35 (London time)

Daily new confirmed COVID-19 deaths

Shown is the rolling 7-day average. Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

Our World in Data



Source: European CDC – Situation Update Worldwide – Last updated 17 September, 10:35 (London time)

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Accessed at <https://ourworldindata.org/> at 2.22 pm CEST



The screenshot shows the top section of The Guardian's website. The header is dark blue with the Guardian logo in yellow and white. Navigation links include 'Search jobs', 'Sign in', 'Search', and 'International edition'. Below the header, there are category links: 'on', 'Sport', 'Culture', 'Lifestyle', and 'More'. A secondary navigation bar lists 'Asia', 'Australia', 'Middle East', 'Africa', 'Inequality', and 'Global development'. The main content area features a large article headline: 'Why is it that while Covid-19 cases are rising, deaths continue to fall?'. Below the headline is a sub-headline: 'There is speculation that the age of those infected is playing a part, while social distancing is also having an impact'. To the right of the article is a yellow promotional box with the text 'Read The Guardian without interruption on all your devices' and a 'Live' button.

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Why is it that while Covid-19 cases are rising, deaths continue to fall?

There is speculation that the age of those infected is playing a part, while social distancing is also having an impact

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What about ICU treatment?

- **Based on experience from the 1st wave: ICU treatment protocols are heterogeneous with high inter and even intra-country variability**
- **Not much information available at the EU level**
- **Approach to severely ill patients might have changed:**
 - **Early invasive ventilation → delaying invasive ventilation**



Recent data on ICU treatment

From a recent pre-print from the UK:

- ICU 28-day **mortality reduced** from 43.5% pre-peak to 34.3% post-peak
- **Use of invasive ventilation** and renal replacement **reduced** over time
- **Duration of invasive ventilation increased** during the peak period among survivors but remained stable among non-survivors
- Duration of ICU stay reduced over time among survivors but remained stable among non-survivors

Why this matters for demand

Scenarios of ICU drug use

Scenario	Drug	Dose (mg/hr)	Hours per Day	Days course	Vial Size (mg)	Total Requirement per Course	Vials per course	Class	Tier
Likely	Cisatracurium	42.0	24	4.00	150.0	4,032	27	NMB	Tier 1
Likely	Propofol	280.0	24	8.25	500.0	55,440	111	Sedative	Tier 1
Likely	Alfentanil	2.0	24	8.25	5.0	396	79	Analgesic	Tier 1
Likely	Noradrenaline	8.4	24	3.00	4.0	605	151	vasopressin	Tier 1
Likely	Dexmedetomidine	0.1	24	8.25	1.0	20	20	Sedative	Tier 2
Likely	Atracurium	55.0	24	4.00	250.0	5,280	21	NMB	Tier 2
Likely	Fentanyl	0.42	24	8.25	2.5	83	33	Analgesic	Tier 2
Likely	Dopamine	210.0	24	3.00	200.0	15,120	76	vasopressin	Tier 2
Likely	Vecuronium	6.0	24	4.00	10.0	576	58	NMB	Tier 3
Likely	Remifentanyl	8.4	24	8.25	5.0	1,663	333	Analgesic	Tier 3
Likely	Metaraminol	4.0	24	3.00	10.0	288	29	vasopressin	Tier 3
Likely	Lorazepam	4.0	24	8.25	4.0	792	198	Sedative	Tier 4
Likely	Pancuronium	4.2	24	4.00	4.0	403	101	NMB	Tier 4
Likely	Morphine	4.0	24	8.25	10.0	792	79	Analgesic	Tier 4
Likely	Adrenaline	6.3	24	3.00	1.0	454	454	vasopressin	Tier 4
Likely	Midazolam	14.0	24	8.25	50.0	2,772	55	Sedative	Tier 4
Likely	Rocuronium	42.0	24	4.00	100.0	4,032	40	NMB	Tier 5
Likely	Sufentanil	0.1	24	8.25	0.5	20	40	Analgesic	Tier 1
Likely	Argipressin	0.0	24	3.00	0.1330	0.86	6	vasopressin	Tier 5
Likely	Terlipressin	0.2	24	3.00	1.0	12	12	vasopressin	Tier 6

Timely access to information is critical to success of planning

An official website of the European Union How do you know? ▾

Other sites: ECDC European Antibiotic Awareness Day ESCAIDE - Scientific conference Eurosurveillance journal EVIP - Vaccination portal

 **European Centre for Disease Prevention and Control**
An agency of the European Union

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< COVID-19

- Situation updates on COVID-19
- Facts
- Latest evidence
- Assessing the risk to the EU**
- Prevention and control

Risk assessment on COVID-19, 10 August 2020

Risk assessment

As countries regained control of transmission and alleviated the burden on healthcare, many measures were relaxed or removed to allow for a more viable way of life with the virus in circulation. Subsequently, a recent increase in COVID-19 cases has been reported in many EU/EEA countries.

Accessed at <https://www.ecdc.europa.eu/en/current-risk-assessment-novel-coronavirus-situation> on 2020-09-17 2 pm CEST



Conclusion

No visibility to
industry
regarding
expected
demand

a. Potential
impact on the
manufacturing
plans

What is necessary

-Members states must work with the industry

-Provide industry with demand forecasts in a timely manner

-Communicate to industry the level of national inventories held over from the first wave

Thank you!