



Coronavirus Disease 2019 (COVID-19)

Daily Situation Report of the Robert Koch Institute

02/02/2021 - UPDATED STATUS FOR GERMANY

Confirmed cases		7-day incidence (7-di)			Vaccination monitoring	DIVI-Intensive care register
Total ¹	Active cases ²	Total population	No. of districts with 7-di > 50/100,000 pop		No. of vaccinations reported in last 24h ⁴	Change to previous day for cases currently in ICU
+6.114 (2.228.085)	-13.100 [ca. 216.100]	90 cases/ 100,000 pop	+1 [366/412]		+38,074 1 st vaccination +61,862 2 nd vaccination	-58 [4,264]
Recovered ³	Deaths	60-79 years	80+ years	No. of districts with 7-di > 100/100,000 pop	Total no. of vaccinated with one/two vaccine dose/s and share of population ⁴	Completed ICU treatment; thereof deceased [%]
+18.500 (ca. 1.954.000)	+861 (57.981)	71 cases/ 100,000 pop	172	-3 [146/412]	N1: 1,980,211(2.4%) N2: 606,786	+493 30%

Numbers in () brackets show cumulative values, numbers in [] brackets show current values. Footnotes can be found in the Annex.

COVID-19 cases are notified to the local public health department in the respective districts, in accordance with the German Protection against Infection Act (IfSG). The data are further transmitted through the respective federal state health authority to the Robert Koch Institute (RKI). This situation report presents the uniformly recorded nationwide data on laboratory-confirmed COVID-19 cases transmitted to RKI.

– Changes since the last report are marked **blue** in the text –

Summary (as of 02/02/2021, 12:00 AM)

- Currently, the number of transmissions in the population in Germany remains high. RKI assesses the level of threat to the health of the general population to be **very high**.
- Yesterday, **6,114** new laboratory-confirmed COVID-19 cases as well as **861** new deaths associated with COVID-19 were transmitted to the RKI. The national 7-day incidence is **90** cases per 100,000 population. In Brandenburg, Saarland, Saxony, Saxony-Anhalt, and Thuringia it is markedly above the national incidence.
- In **366** of the 412 districts, the 7-day COVID-19 incidence is high. In **146** districts, the 7-day incidence is >100 cases/100,000 population and in 5 of these districts it is >250-500 cases/100,000 population.
- The 7-day incidence among people aged 60-79 years is currently **71** and of people aged ≥80 years, **172** cases/100,000 population.
- The high nationwide number of cases is caused by increasingly diffuse transmission, with numerous clusters especially in households, occupational settings and nursing and long-term care homes.
- On **02/02/2021 (12:15 PM)** **4,264** COVID-19 patients were in intensive care. In the preceding 24 hours, **+493** existing patients had been discharged (**30%** of whom had died) and **+435** patients were newly admitted. The resulting number of cases under treatment was **-58** more than the prior day.
- Since 26/12/2020 a total of **1,980,211** people in Germany have been vaccinated at least once (vaccination rate **2.4%**) and **606,786** people twice against COVID-19 (<http://www.rki.de/covid-19-impfquoten>).

Epidemiological Situation in Germany

In accordance with the international standards of WHO¹ and ECDC², the RKI classifies all cases of laboratory confirmation via SARS-CoV-2-nucleic acid based (e.g. PCR) detection or SARS-CoV-2 isolation as COVID-19 cases, regardless of the presence and severity of clinical symptoms. Thus, in the following report the term "COVID-19 cases" covers acute SARS-CoV-2 infections as well as cases of COVID-19 disease.

General current assessment

After a sharp rise in case numbers at the beginning of December, a decrease during the holidays and an increase in the first week of January the case numbers have been slowly decreasing.

The R-value is currently **slightly below** 1. Due to the still very high number of infected persons in Germany, this nonetheless means that the number of new infections **is decreasing** per day **yet** remains high.

Outbreaks are being reported from various districts throughout Germany, currently particularly in nursing and long-term care homes, occupational settings, and households. Additionally, in many districts, there is an increasingly diffuse spread of SARS-CoV-2 without traceable transmission chains.

Since patients in older age groups more often suffer from more severe illness due to COVID-19, the number of serious cases and deaths remains at a high level. These can only be avoided if all persons prevent the spread of the SARS-CoV-2 virus with the help of infection control measures.

It is therefore still necessary for the entire population to be committed to infection prevention and control, e.g. by consistently observing rules of distance and hygiene - also outdoors -, by ventilating indoor spaces and, where indicated, by wearing a surgical mask or masks marked with N95 or KN95 or FFP2 correctly. Crowds of people - especially indoors - should be avoided.

Several variants of SARS-CoV-2 are currently being detected worldwide. Their effect on the spread of SARS-CoV-2 and the effectiveness of vaccinations on these variants are being examined in detail. Since mid-December there have been reports of the increasing spread of a new virus variant (B.1.1.7) in the United Kingdom. There is increasing clinical-diagnostic as well as epidemiological evidence of increased infectiousness of this variant. There are initial indications from the United Kingdom that infections with variant B.1.1.7 may lead to more severe diseases. Preliminary laboratory studies indicate that mRNA vaccine efficacy is unlikely to be strongly affected by variant B.1.1.7.

Also, in December 2020, an increased occurrence of a SARS-CoV-2 variant in South Africa (B.1.351) was reported, which has displaced other variants. Therefore, an increased infectiousness is conceivable. For this virus variant, too, laboratory tests show that the efficacy of the licensed mRNA vaccines is only minimally affected. In addition, a SARS-CoV-2 variant derived from line B.1.1.28 is circulating in the Brazilian state of Amazonas. Travels, which are non-essential, should be avoided – especially due to the circulation of new virus mutations.

All three variants have already been detected in Germany. With increased sequencing and data acquisition in the German Electronic Sequence Data Hub (DESH - https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/DESH/DESH.html) the infection process is increasingly monitored through integrated molecular surveillance.

¹ World Health Organization, https://www.who.int/publications/i/item/WHO-2019-nCoV-Surveillance_Case_Definition-2020.1

² European Centre for Disease Prevention and Control, <https://www.ecdc.europa.eu/en/covid-19/surveillance/case-definition>

Geographical distribution of cases

Epidemiological analyses are based on validated cases notified electronically to the RKI in line with the Protection Against Infection Law (Data closure: 12:00 AM daily). Since January 2020, a total of **2,228,085 (+6,114)** laboratory-confirmed cases of COVID-19 have been reported to and validated by the RKI (Table 1).

Table 1: Number and cumulative incidence (per 100,000 population) of laboratory-confirmed COVID-19 cases and deaths for each federal state electronically reported to RKI, Germany (02/02/2021, 12:00 AM). The number of new cases includes positive cases notified to the local health department at the same day, but also at previous days.

Federal State	Cumulative cases			Last 7 days		Cumulative deaths	
	Total number of cases	Number of new cases	Cases/100,000 pop.	Cases in the last 7 days	7-day incidence/100,000 pop.	Number of deaths	Number of deaths/100,000 pop.
Baden-Wuerttemberg	294,255	608	2,651	8,280	75	7,181	64.7
Bavaria	404,215	761	3,080	12,077	92	10,496	80.0
Berlin	120,397	454	3,281	2,968	81	2,295	62.5
Brandenburg	68,694	359	2,724	3,111	123	2,361	93.6
Bremen	16,033	35	2,354	570	84	273	40.1
Hamburg	46,554	155	2,520	1,401	76	1,074	58.1
Hesse	172,367	311	2,741	5,685	90	4,926	78.3
Mecklenburg-Western Pomerania	20,022	85	1,245	1,436	89	474	29.5
Lower Saxony	143,160	427	1,791	6,074	76	3,324	41.6
North Rhine-Westphalia	487,938	946	2,719	15,008	84	10,973	61.1
Rhineland-Palatinate	93,372	328	2,281	3,341	82	2,573	62.8
Saarland	25,829	22	2,617	1,203	122	743	75.3
Saxony	180,623	413	4,436	4,880	120	6,367	156.4
Saxony-Anhalt	52,462	842	2,390	3,186	145	1,773	80.8
Schleswig-Holstein	36,343	139	1,252	2,309	80	917	31.6
Thuringia	65,821	229	3,085	3,340	157	2,231	104.6
Total	2,228,085	6,114	2,679	74,869	90	57,981	69.7

Quality checks and data cleaning by the health authorities and regional offices can lead to corrections to cases previously transmitted (e. g. detection of duplicate reports). This can occasionally lead to negative values for the number of new cases.

Distribution of cases over time

The first COVID-19 cases in Germany were notified in January 2020. Figure 1 shows COVID-19 cases transmitted to RKI according to date of illness onset from 01/03/2020 onwards. Of these cases, the onset of symptoms is unknown for 1,162,260 cases (52 %) thus their date of reporting is provided in Figure 1.

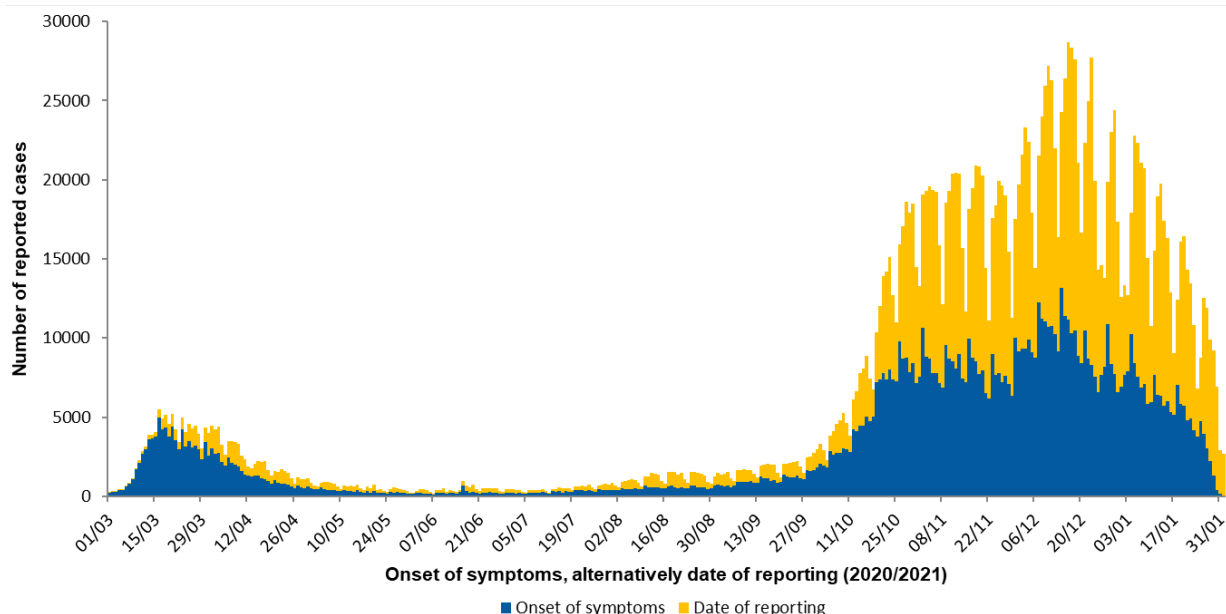


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (02/02/2021, 12:00 AM).

Demographic distribution of cases

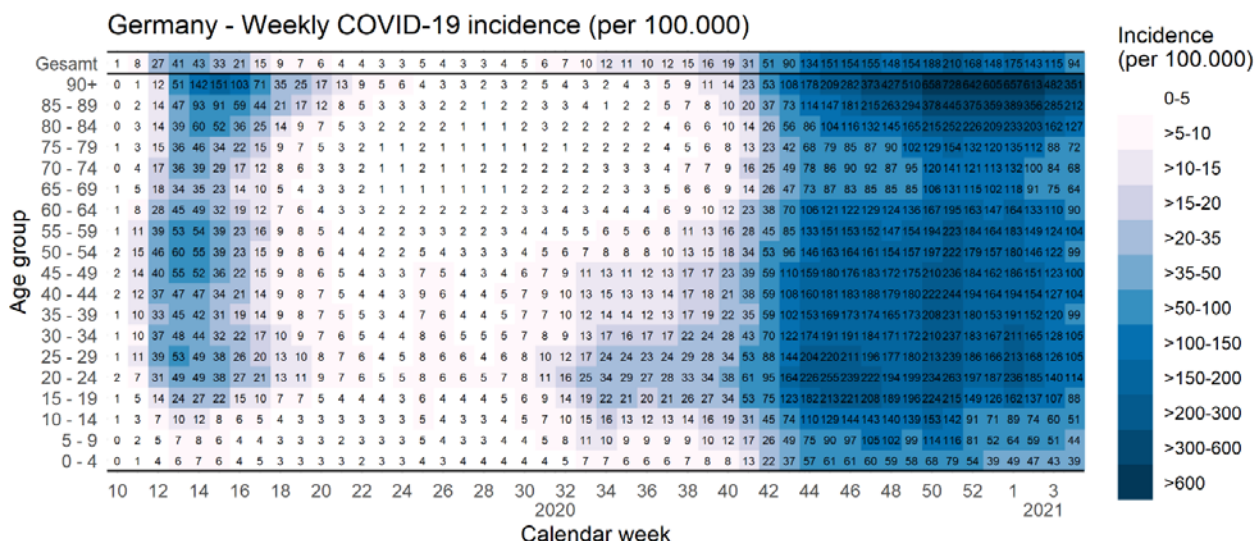


Figure 2: 7-day-incidence of notified COVID-19 cases by age group and reporting week (n=2,224,301 cases with respective data in the weeks 10 to 53, 2020 and week 01-04, 2021 (02/02/2021, 12:00 AM).

The age-specific 7-day incidence is shown using a heat map (Figure 2). Age-specific case numbers and age-specific 7-day incidences can be accessed at: www.rki.de/covid-19-altersverteilung.

After the first wave until reporting week 32, the nationwide 7-day incidence remained low and has increased steadily starting in younger age-groups, and since reporting week 41 also in older age groups. Until the end of 2020 an increase of the 7-day incidence could be seen in all age groups, especially in the age groups 80 years and older. Since reporting week 02 the incidence decreased slightly.

Clinical aspects

Information on symptoms is available for 1,459,269 (66%) of the notified COVID-19 cases. Table 2 shows the number and percentage of COVID-19 relevant or most common symptoms.

Clinical feature	N with information	N with clinical feature	% with clinical feature
cough	1,459,269	582,043	40%
fever	1,459,269	391,191	27%
rhinorrhoea	1,459,269	412,138	28%
sore throat	1,459,269	307,494	21%
pneumonia	1,459,269	20,730	1%
ageusia and anosmia*	1,314,366	283,777	22%

Table 2: Cases with COVID-19 relevant or most common symptoms (02/02/2021, 12:00 AM). *Ageusia and anosmia were technically reportable since week 17.

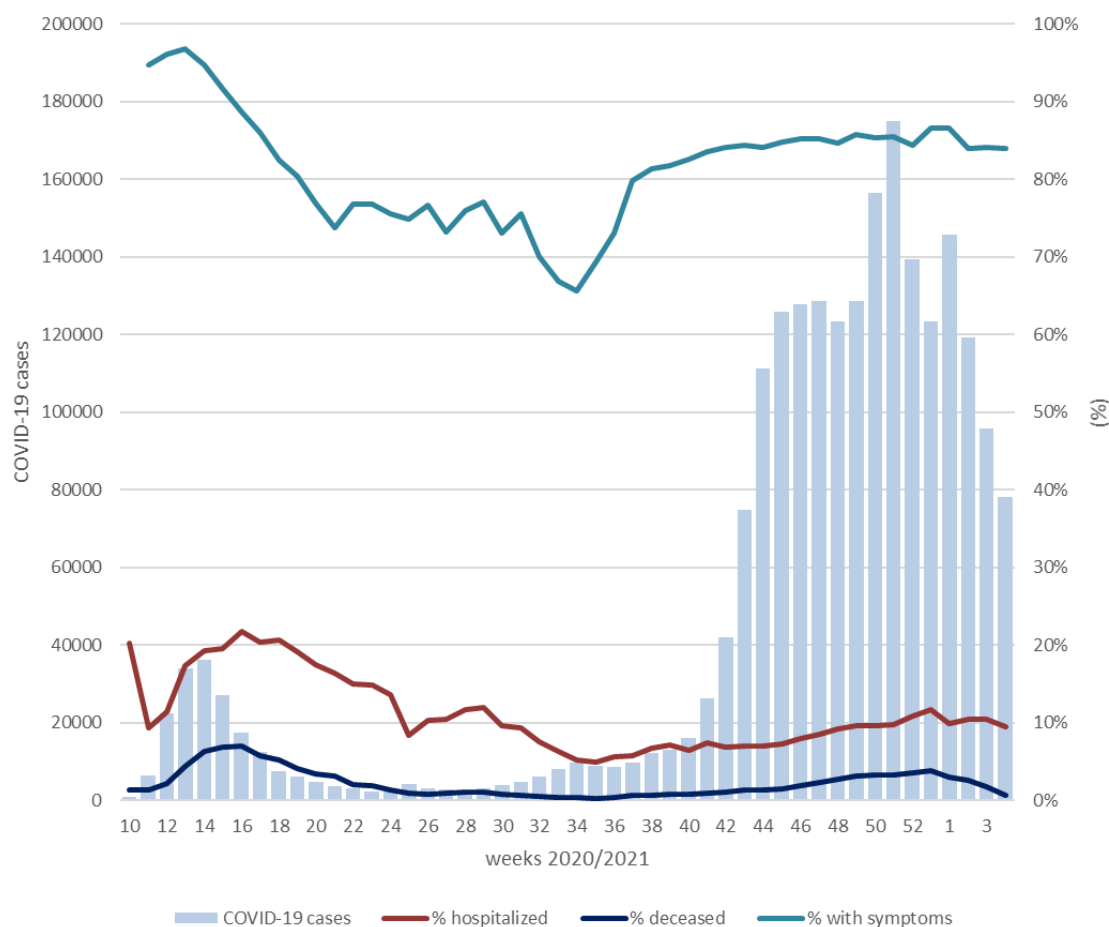


Figure 3: Depiction of the COVID-19 cases and proportion of deceased as well as proportion of hospitalized and COVID-19 cases with relevant symptoms, in relation to the respective number with corresponding data between week 10 – 53, 2020 and week 01-04, 2021. See the underlying data table at www.rki.de/covid-19-tabelle-klinische-aspekte

Figure 3 displays the percentages of deceased, hospitalized and symptomatic cases (COVID-19 relevant symptoms). The percentage of deaths among cases was less than 1% between week 30 and 41. An increasing trend is visible from week 36 onwards. In the weeks 47 to 53 it is between 2.3 and 3.8% and decreases since the beginning of the new year. As deaths occur on average only 2-3 weeks after infection, further reports of deaths are expected for weeks 02 – 04/2021. The proportion of hospitalized COVID-19 cases increased from 5% in week 35 to 12% in week 53 and is decreasing slightly since the beginning of the new year. The percentage of cases with COVID-19 relevant symptoms is since week 38 over 80%. These

percentages may equally change due to delayed reporting and data corrections. During the summer (weeks 26-36) these proportions were lower at 65% and 77%. During that time period returning travelers were increasingly tested, among whom asymptomatic infections were detected more frequently. The data on which the figure is based and that were published here on previous Tuesdays can be found at:

www.rki.de/covid-19-tabelle-klinische-aspekte

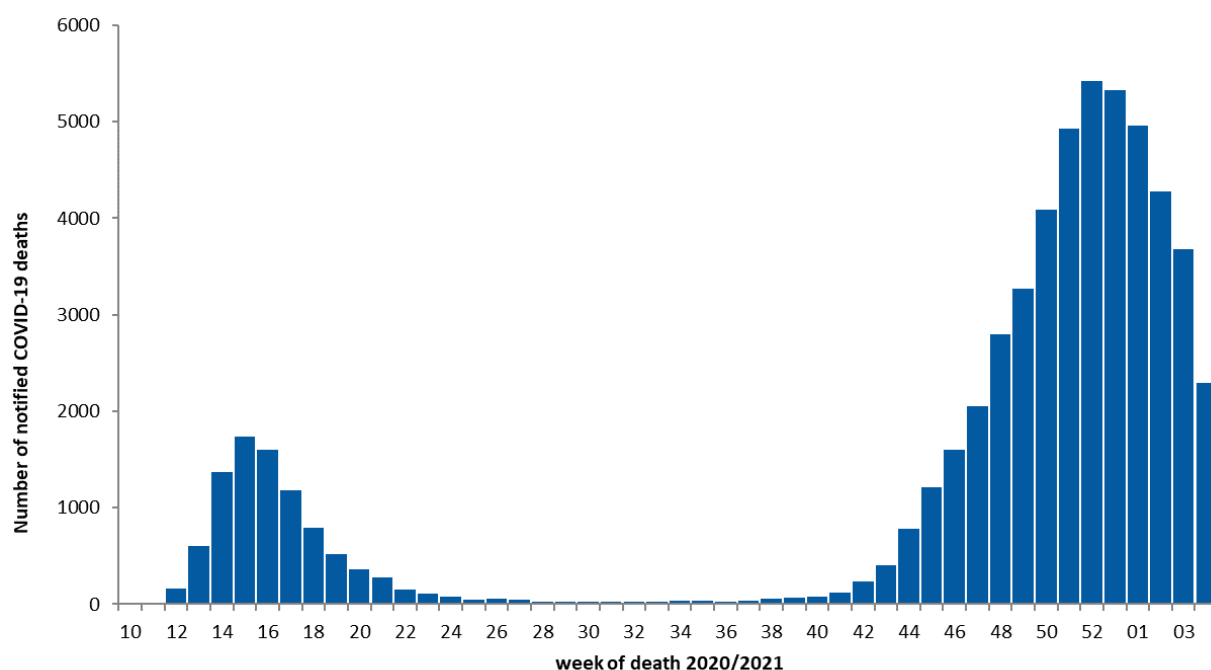


Figure 4: Number of notified COVID-19 deaths according to week of death for the reporting weeks 10 – 53, 2020 and week 01-04, 2021 (02/02/2021, 12:00 AM).

The figures on the first page show the number of deaths reported daily according to date of entry at RKI. This may also include cases with a date of death several days in the past. Figure 4 shows the reported COVID-19 deaths by calendar week according to the date of death. For recent weeks, further reports of deaths among reported cases can be expected.

A significant increase in the number of deaths was observed since week 37. Since week 53, the number of reported deaths is slightly decreasing considerably. Of all deaths, 51,520 (89%) were among people aged 70 years or older, with a median age of 84 years (Table 3), while this age group accounts for only 16% of all cases. Thus far, 12 deaths among COVID-19 cases under 20 years of age have been reported to the RKI. Nine of these deaths are validated; these children and adolescents were between 0 and 17 years of age, and seven of seven with information in this regard had known pre-existing conditions.

Table 3: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 57,789 notified deaths; 02/02/2021, 12:00 AM)

Gender	Age group (in years)									
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+
Male	3	2	27	60	215	1,037	3,033	7,128	13,618	4,558
Female	8		18	33	104	431	1,298	3,951	13,414	8,851
Total	11*	2	45	93	319	1,468	4,331	11,079	27,032	13,409

* 4 cases are currently being validated.

Possible countries of exposure

In weeks 01-04 2021, of the 438,673 reported COVID-19 cases, information regarding the country of exposure was missing in 198,054 (45%) cases.

The absolute number of cases with exposure abroad was stable after the end of the summer vacation period (week 38) to week 45 with an average of 1,700 cases per week.

Since then, it has decreased to currently 300 cases in week 52, 2020. Since the Christmas holidays, the number of cases has initially gone up again, to 1.240 in week 02, and is now decreasing again, to 343 cases in MW 04, 2021. In the weeks 01-04 2021, a total of 3,214 persons (less than 1% of cases with information) reported a possible site of infection abroad.

Travelers from a COVID-19 risk area within 14 days of entry into Germany must maintain a 10-day quarantine unless they have a negative test result from a test taken five days after arrival (for further details see <https://www.bundesgesundheitsministerium.de/coronavirus-infos-reisende>).

Outbreaks

The dashboard (<https://corona.rki.de>) shows all affected districts.

In most districts, the transmission is diffuse with many outbreaks particularly in retirement and nursing homes, occupational settings and private households. In some counties, a specific, larger outbreak is known to be the cause of the high incidence. Many smaller outbreaks continue to contribute to the elevated incidence, for example outbreaks in hospitals.

Estimation of the reproduction number (R)

The reproduction number, R, is defined as the mean number of people infected by one infected person. The estimation of the R-value is based on the so-called nowcasting (Figure 5), a statistical procedure that shows the development of the number of cases after the onset of the disease and also forecasts it for the last few days. This forecast is subject to uncertainty, which is also reflected in the prediction intervals given for the R-value. After further case reports have been received at the RKI, the R-value is adjusted for the past days and, if necessary, corrected upwards or downwards. In recent weeks, values reported at the beginning of a week were typically corrected slightly upwards. They had thus slightly underestimated the real COVID-19 events in Germany, while values estimated towards the end of a week were more stable. The currently estimated course of the R-value is shown in Figure 6.

4-day R-value	7-day R-value
0.85	0.85
(95%-prediction interval: 0.74 – 0.94)	(95%-prediction interval: 0.79 – 0.90)

Delays in reporting of case numbers at weekend days can lead to cyclical fluctuations of the 4-day R-value. The 7-day R-value is less affected because all week days are used to determine the value.

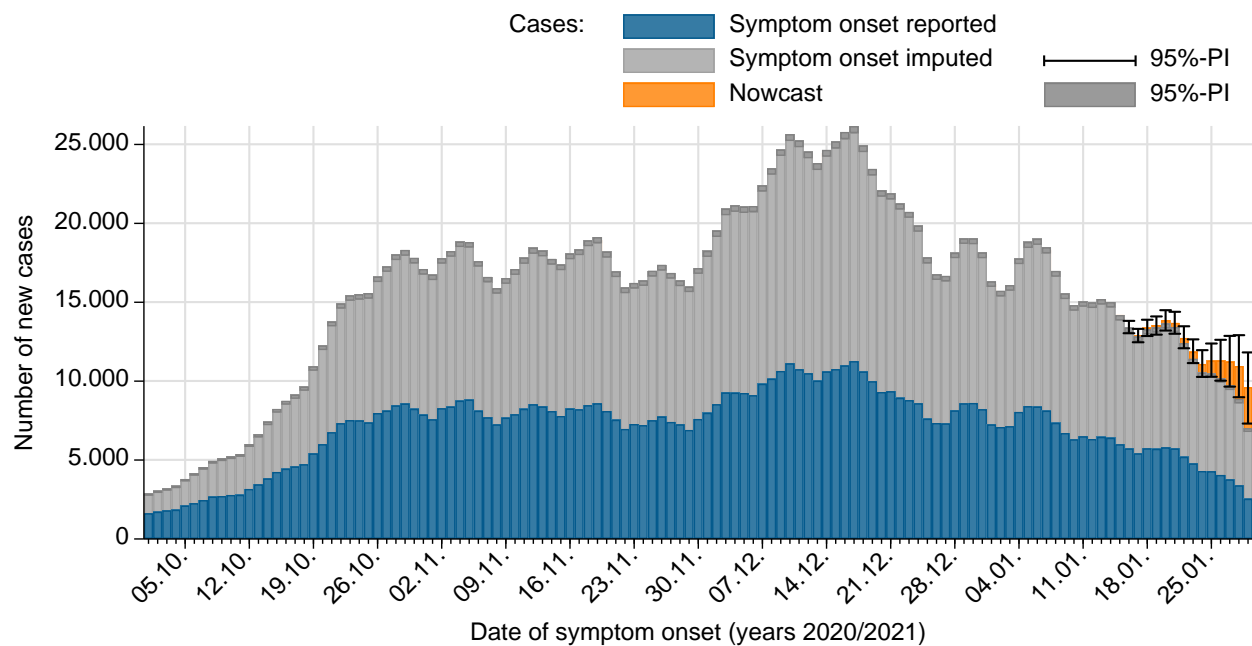


Figure 5: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (orange) (as of 02/02/2021, 12 AM, considering cases up to 29/01/2021).

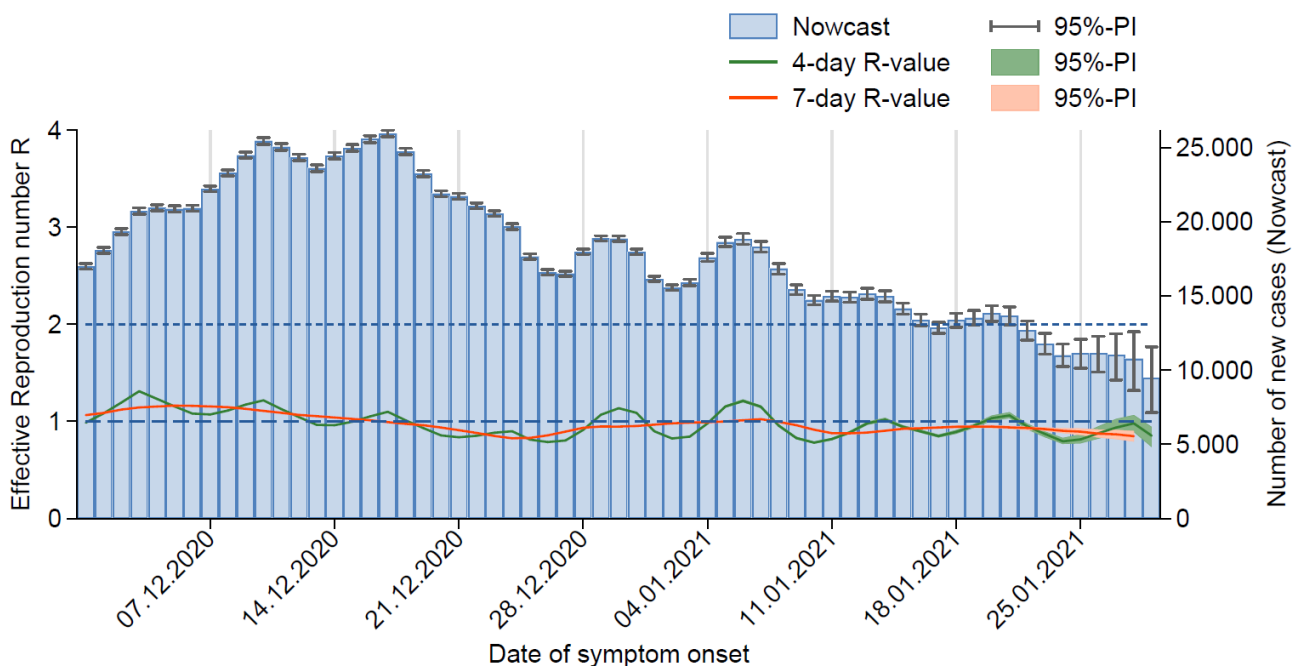


Figure 6: The estimated R-values (in green and orange) over the last 60 days, against the background of the estimated number of COVID-19 cases according to illness onset (as of 02/02/2021, 12 AM, considering cases up to 29/01/2021).

The R-value is currently **slightly below 1**. Due to the still very high number of infected persons in Germany, this nonetheless means that the number of new infections **is decreasing** per day **yet** remains high.

Sample calculations as well as an excel sheet presenting both R-values with daily updates can be found under www.rki.de/covid-19-nowcasting. A detailed description of the methodology is available at https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2020/17/Art_02.html (Epid. Bull, 17 | 2020 from 23/04/2020).

DIVI intensive care register

The German Interdisciplinary Association for Intensive and Emergency Medicine (DIVI) has in collaboration with RKI established a registry to document the number of available intensive care beds as well as the number of COVID-19 cases treated in participating hospitals on a daily basis. Since 16/04/2020, all hospitals with intensive care beds are required to report (<https://www.intensivregister.de/#/index>).

As of 02/02/2021, a total of **1,281** hospitals reported to the DIVI registry. Overall, **27,007** intensive care beds were registered, of which **22,545** (83%) are occupied, and **4,462** (17%) beds are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 4.

Table 4: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (02/02/2021, 12:15 PM).

		Number of patients	Change to previous day*
Currently	Currently in ICU	4,264	-58
	- thereof with invasive ventilation	2,356 (55%)	+6
	New admissions to ICU		+435
Total	Discharged from ICU	66.434	+493
	- thereof deaths	18.824 (28%)	+147 (30%)

*The interpretation of these numbers must consider the number of reporting hospitals and therefore the number of reported patients may change from day to day. On certain days, this can explain an occasionally important decrease or increase in the cumulative number of discharged patients or deaths compared with the day before.

Risk Assessment by the RKI

In view of persistently high case numbers, the RKI currently assesses the threat to the health of the general population to be **very high**. The revised version highlights the increasingly diffuse SARS-CoV-2 transmission as well as the occurrence of outbreaks especially in households, occupational settings and nursing and senior care homes.

Therefore, more rigorous case finding and contact tracing as well as better protection of vulnerable groups is essential. Vulnerable persons can only be reliably protected if the number of new infections can be reduced substantially. On 12/01/2021, the risk assessment was updated with reference to the new SARS-CoV-2 variants. The current version can be found here:

https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikobewertung.html *(in German)*

Measures taken in Germany

- Entry restrictions to Germany for travelers from countries designated as regions with variants (30/01/2021; *in German*)
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Transport/CoronaSchV_Mutationen.pdf?blob=publicationFile
- Information on the designation of international risk areas (25/01/2021)
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.html

- German electronic Sequencing-Data-Hub (DESH, Deutscher elektronischer Sequenzdaten-Hub) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/DESH/DESH.html (21.01.2021, *in German*)
- Recommendations on COVID-19-vaccination (*in German*) <https://www.rki.de/DE/Content/Infekt/Impfen/ImpfungenAZ/COVID-19/Impfempfehlung-Zusfassung.html>
- Further governmental resolutions regarding additional containment measures (Lockdown, *in German*) <https://www.bundesregierung.de/breg-de/themen/coronavirus/mpk-beschluss-corona-1834364>
- Vaccination started in Germany on the 26th of December 2020 (*in German*) <http://www.rki.de/covid-19-impfquoten>
- Regulation to entry to Germany (13/01/2021. *in German*) https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/3_Downloads/C/Coronavirus/Verordnungen/Corona-Einreiseverordnung_BAnz.pdf
- National Testing Strategy – who will be tested for SARS-CoV-2 in Germany (*in German*) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Nat-Teststrat.html
- Important information and guidance on SARS-CoV-2 for returning travellers (*in German*) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Transport/BMG_Merkblatt_Reisende_Tab.html
- Selected and regularly updated information on COVID-19 <https://www.rki.de/covid-19-en>
- The ministry of health has published a record of all measures implemented in Germany since 27/01/2020 (*in German*) <https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html>
- Information from the Ministry of Health for travellers entering Germany: Frequently asked questions and answers (*in German*) <https://www.bundesgesundheitsministerium.de/coronavirus-infos-reisende/faq-tests-einreisende.html>
- Corona-Warn-App <https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/CWA/CWA.html>
- Information on additional regulations at the regional level regarding control measures such as physical distancing or quarantine regulations for persons entering from other countries can be accessed here (*in German*): <https://www.bundesregierung.de/breg-de/themen/coronavirus/corona-bundeslaender-1745198>

Annex

¹ The difference to the previous day is based on the date cases are received at RKI. Due to delay in data transmission, cases from preceding days may be included.

² Active cases were calculated from the number of transmitted cases minus deaths and the estimated number of recovered cases.

³ The algorithm for estimation of recovered cases considers information on disease onset and hospitalization, but not for late effects, because such data are not recorded regularly.

⁴ Data on COVID-19 vaccinations are only updated on weekdays. On Sundays, updated figures are not reported.