



Coronavirus Disease 2019 (COVID-19)

Daily Situation Report of the Robert Koch Institute

16/02/2021 - 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
+3,856 (2,342,843)	-9,300 [135,800]	59 cases/ 100,000 pop		+4 [249/412]	+68,541 +53,247	-87 [3,352]
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 [%]
+12,600 (2,141,400)	+528 (65,604)	44 cases/ 100,000 pop	87 cases/ 100,000 pop	-2 [41/412]	N1: 2,813,732 (3.4%) N2: 1,470,822 (1.8%)	+440 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 16/02/2021, 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, **3,856** new laboratory-confirmed COVID-19 cases as well as **528** new deaths associated with COVID-19 were transmitted to the RKI. The national 7-day incidence is **59** cases per 100,000 population. In Thuringia it is considerably above the national incidence.
- In **249** of the 412 districts, the 7-day COVID-19 incidence is high (>50 cases/100,000 population). In **41** districts, the 7-day incidence is >100 cases/100,000 population and in **1** of these districts it is >250-500 cases/100,000 population.
- The 7-day incidence among people aged 60-79 years is currently **44** and of people aged ≥80 years, **87** 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 **16/02/2021 (12:15 PM)** **3,352** COVID-19 patients were in intensive care. In the preceding 24 hours, **+440** existing patients had been discharged (**30%** of whom had died) and **+353** patients were newly admitted. The resulting number of cases under treatment was **-87** more than the prior day.
- Since 26/12/2020 a total of **2,813,732** people in Germany have been vaccinated at least once (vaccination rate **3.4%**) and of those **1,470,822** people twice (vaccination rate **1.8%**) against COVID-19 (<http://www.rki.de/covid-19-impfquoten>).
- In this situation report, the following additional information is given: **demographic distribution of cases, clinical aspects, possible countries of exposure, and outbreaks**.

Note: The report is a snapshot and is continuously updated.

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 2020, a decrease during the holidays and an increase in the first week of January 2021 the case numbers have been slowly decreasing since mid-January 2021.

The 7-day R-value is currently below 1 since the 2nd week of January 2021. Despite the current reduction in cases, the risk of a renewed increase in case numbers remains high due to the occurrence of several variants of concern.

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 correctly wearing a surgical mask or FFP2 mask (or N95 or KN95 respectively). Crowds of people - especially indoors - should be avoided.

Several variants of SARS-CoV-2 are currently being detected worldwide. Since mid-December 2020 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. Additionally, there are initial indications from the United Kingdom that infections with variant B.1.1.7 may lead to more severe diseases. Moreover, 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. Preliminary laboratory studies indicate that the efficacy of the licensed mRNA vaccines is apparently not substantially affected by the variants B.1.1.7. and B.1.351. Additionally, a SARS-CoV-2 variant derived from line B.1.1.28 is circulating in the Brazilian state of Amazonas. Non-essential travel should be avoided – especially due to the circulation of variants of concern.

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 **2,342,843 (+3,856)** 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 (16/02/2021, 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	306,401	217	2,760	5,187	47	7,805	70.3
Bavaria	421,792	553	3,214	7,596	58	11,773	89.7
Berlin	124,979	197	3,406	1,918	52	2,619	71.4
Brandenburg	73,381	140	2,910	1,806	72	2,820	111.8
Bremen	17,001	28	2,496	438	64	314	46.1
Hamburg	49,169	186	2,662	1,118	61	1,197	64.8
Hesse	180,927	224	2,877	3,500	56	5,505	87.5
Mecklenburg-Western Pomerania	22,395	55	1,393	1,026	64	645	40.1
Lower Saxony	154,185	534	1,929	5,139	64	3,881	48.6
North Rhine-Westphalia	511,231	709	2,849	10,057	56	12,212	68.0
Rhineland-Palatinate	98,130	258	2,397	1,994	49	2,907	71.0
Saarland	27,644	36	2,801	659	67	827	83.8
Saxony	187,820	218	4,613	2,787	68	7,190	176.6
Saxony-Anhalt	56,819	143	2,589	1,734	79	2,140	97.5
Schleswig-Holstein	39,790	129	1,370	1,671	58	1,155	39.8
Thuringia	71,179	229	3,336	2,164	101	2,614	122.5
Total	2,342,843	3,856	2,817	48,794	59	65,604	78.9

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 1,185,664 cases (51 %) thus their date of reporting is provided in Figure 1.

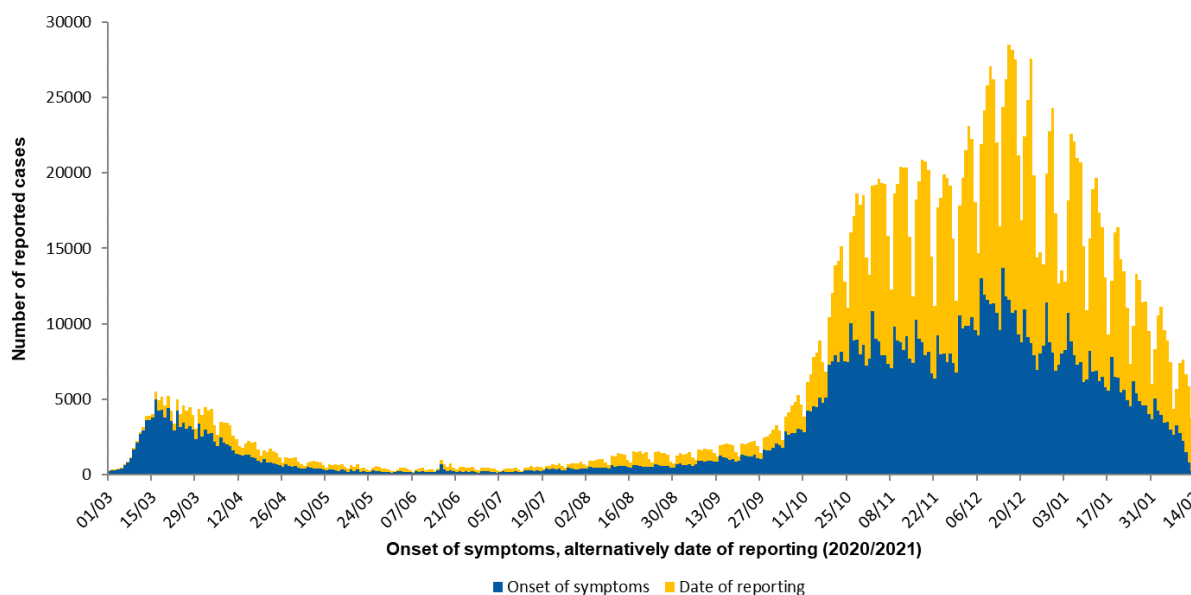


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (16/02/2021, 12:00 AM).

Demographic distribution of cases

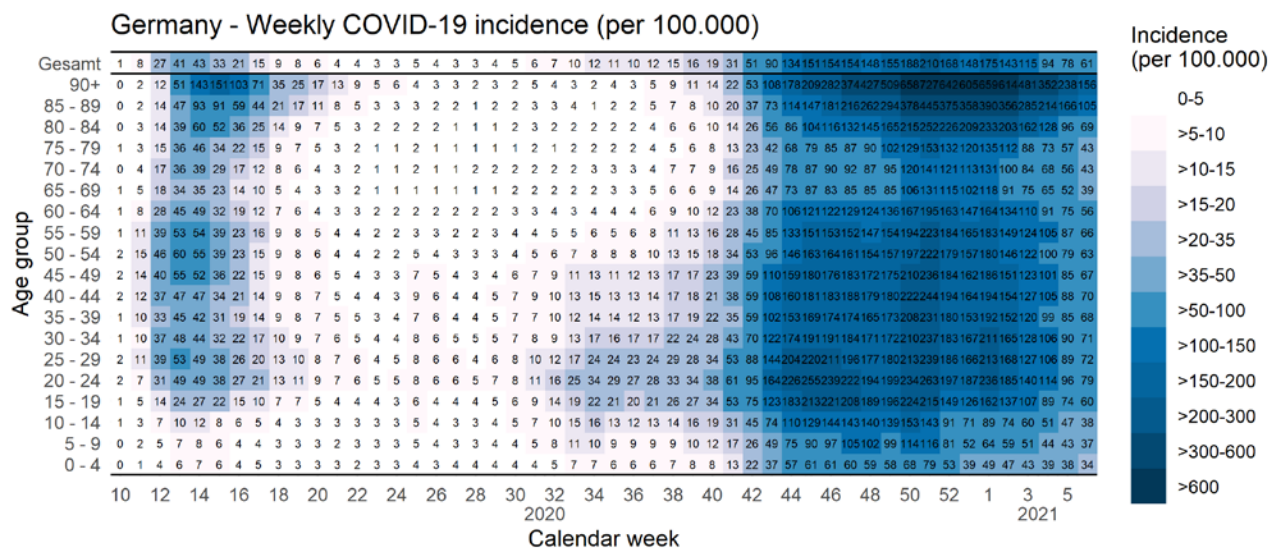


Figure 2: 7-day-incidence of notified COVID-19 cases by age group and reporting week (n=2,340,087 cases with respective data in the weeks 10 to 53, 2020 and weeks 01-06, 2021 (16/02/2021, 12:00 AM).

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, 2021 the incidence in all age groups decreased.

Clinical aspects

Information on symptoms is available for **1,579,083** (67%) 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	1,579,083	632,784	40%
fever	1,579,083	422,098	27%
rhinorrhoea	1,579,083	451,538	29%
sore throat	1,579,083	334,262	21%
pneumonia	1,579,083	23,168	1%
ageusia and anosmia*	1,434,158	310,720	22%

Table 2: Cases with COVID-19 relevant or most common symptoms (16/02/2021, 12:00 AM). *Ageusia and anosmia were technically reportable since week 17.

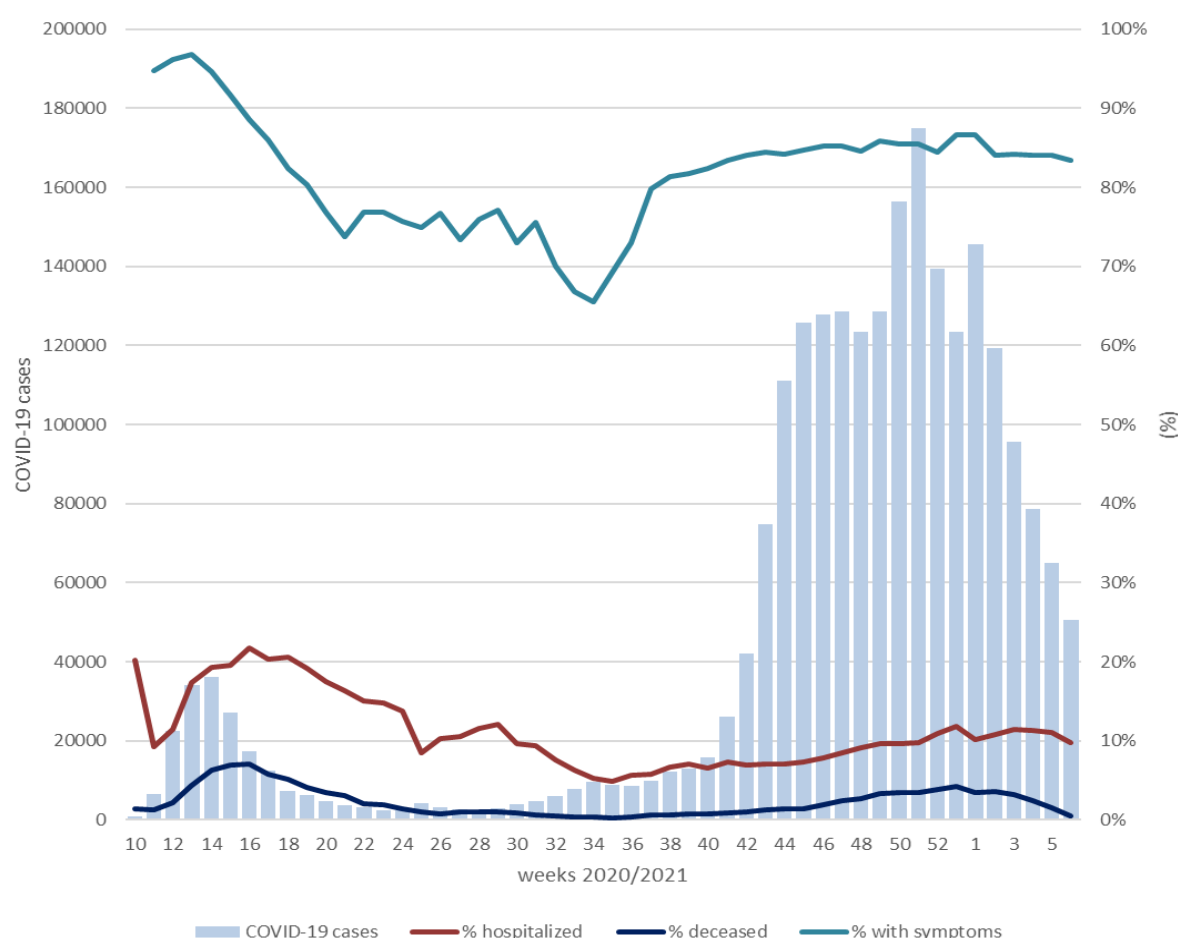


Figure 3: Depiction of the COVID-19 cases and proportion of deceased as well as proportion of hospitalized and COVID-19 cases with relevant symptoms, in relation to the respective number with corresponding data in weeks 10 – 53, 2020 and weeks 01-06, 2021 (16/02/2021, 12:00 AM). These numbers/proportions may equally change due to delayed reporting and data corrections. See the underlying data table at www.rki.de/covid-19-tabelle-klinische-aspekte.

Figure 3 displays the total number of cases as well as percentages of deceased, hospitalized and symptomatic cases (COVID-19 relevant symptoms). The percentage of cases with COVID-19 relevant symptoms has been above 80% since week 38, 2020. During the summer (weeks 26-36, 2020) these proportions were between 65% and 77%. During that time period returning travelers were increasingly tested, among whom asymptomatic infections were detected more frequently. The proportion of hospitalized COVID-19 cases increased from 5% in week 35 and has been around 10% since week 49, 2020 (with a maximum of 12% in week 53, 2020). The percentage of deaths among cases was less than 1%

between week 30 and 41, 2020. An increasing trend is visible from week 36 onwards. In weeks 47-53, the proportion of deaths was between 2.4 and 4.2 % and has been decreasing steadily since the beginning of the new year. As deaths occur on average 2-3 weeks after infection, further reports of deaths are expected for weeks 04 – 06/2021. 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

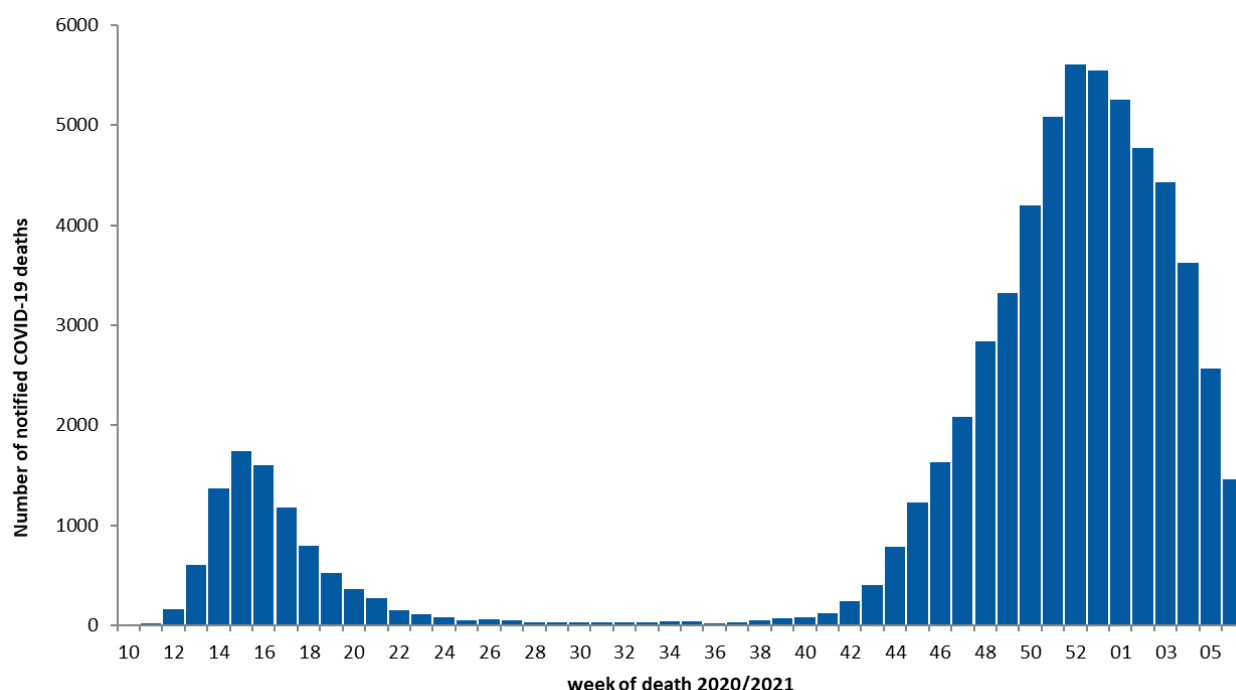


Figure 4: Number of notified COVID-19 deaths according to week of death for the reporting weeks 10 – 53, 2020 and weeks 01-06, 2021 (16/02/2021, 12:00 AM).

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 decreasing considerably. Of all deaths, 58,297 (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, 10 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 eight of nine 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 65,403 notified deaths; 16/02/2021, 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	2	2	28	65	242	1,178	3,449	8,056	15,373	5,160
Female	6		19	32	111	489	1,483	4,474	15,150	10,084
Total	8*	2	47	97	353	1,667	4,932	12,530	30,523	15,244

* Of these, 1 case are currently still being validated.

Possible countries of exposure

In weeks 03-06 2021, of the 289,640 reported COVID-19 cases, information regarding the country of exposure was missing in 119,064 (41%) 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 1,273 in week 02, and is now decreasing again, to 245 cases in MW 06, 2021. In the weeks 03-06 2021, a total of 1,607 persons (less than 1% of all reported cases) 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
0.86	0.84
(95%-prediction interval: 0.76 – 0.96)	(95%-prediction interval: 0.79 – 0.89)

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.

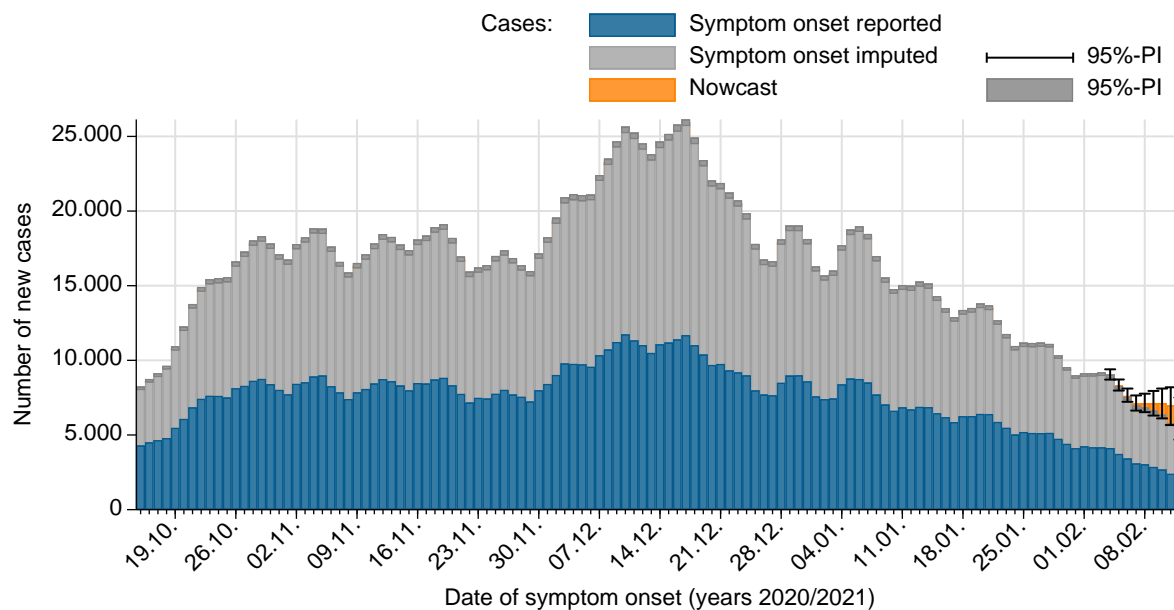


Figure 5: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (orange) (as of 16/02/2021, 12 AM, considering cases up to 12/02/2021).

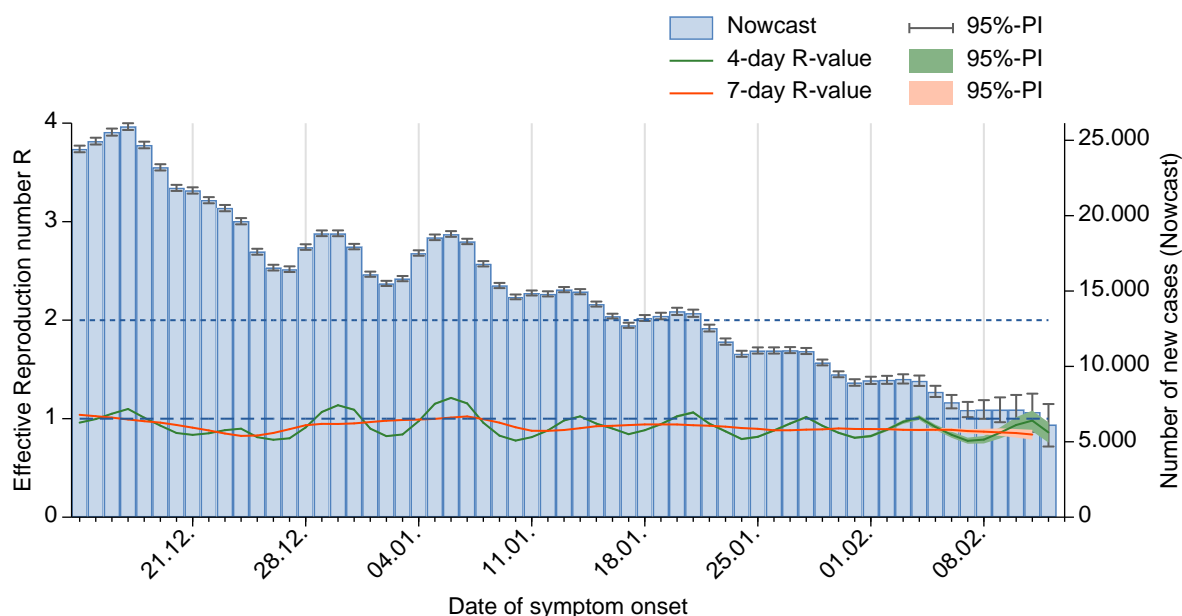


Figure 6: The estimated R-values (in green and orange) over the last 60 days, against the background of the estimated number of COVID-19 cases according to illness onset (as of 16/02/2021, 12 AM, considering cases up to 12/02/2021).

The 7-day R-value is currently below 1 since the 2nd week of January 2021. Despite the current reduction in cases, the risk of a renewed increase in case numbers remains high due to the occurrence of several variants of concern.

Sample calculations as well as an excel sheet presenting both R-values with daily updates can be found under <http://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 16/02/2021, a total of **1,280** hospitals reported to the DIVI registry. Overall, **26,902** intensive care beds were registered, of which **22,284** (83%) are occupied, and **4,618** (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 (16/02/2021, 12:15 PM).

		Number of patients	Change to previous day*
Currently	Currently in ICU	3,352	-87
	- thereof with invasive ventilation	1,909 (57%)	-25
	New admissions to ICU		+353
Total	Discharged from ICU	72,455	+440
	- thereof deaths	20,683 (29%)	+131 (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 ongoing community transmission of SARS-CoV-2 as well as the occurrence of outbreaks especially in nursing and senior care homes, households, and occupational settings.

Against the background of rising occurrence of variants of concern (VOC) with higher infectiousness, a rigorous reduction of physical contacts, usage of protective measures as well as intensive efforts to contain outbreaks and chains of infections are necessary to reduce the number of new infections and to protect vulnerable persons.

On 12/02/2021, the risk assessment was updated with reference to the new SARS-CoV-2 variants. The current version can be found here: www.rki.de/covid-19-risikobewertung (in German).

Measures taken in Germany

- Report to SARS-CoV-2 variants in Germany, especially of VOC B.1.1.7 (10/02/2021, in German)
- https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/DESH/Bericht_VOC_2021-02-10.pdf?blob=publicationFile
- Information on the designation of international risk areas (05/02/2021)
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.html
- Seroepidemiological studies in Germany (04/02/2021) www.rki.de/covid-19-serostudies-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
- 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 www.rki.de/covid-19-warnapp-en
- 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.