



Coronavirus Disease 2019 (COVID-19)

Daily Situation Report of the Robert Koch Institute

07/01/2021 - UPDATED STATUS FOR GERMANY

Confirmed cases		7-day incidence (7-di)		Vaccination monitoring	DIVI-Intensive care register
Total¹	Active cases²	Total population	No. of districts with 7-di > 50/100,000 pop	No. of vaccinations in last 24h	Change to previous day for cases currently in ICU
+26,391 (1,835,038)	+2,300 [ca. 323,400]	122 cases/ 100,000 pop	+4 [390/412]	+46,332	-78 [5,491]
Recovered³	Deaths	60-79 years	80+ years	Total no. of vaccinated with one vaccine dose	Completed ICU treatment; thereof deceased [%]
+23,100 (ca. 1,474,000)	+1,070 (37,607)	97 cases/ 100,000 pop	237 cases/ 100,000 pop	417,060	+845 24%
			No. of districts with 7-di > 100/100,000 pop		
			-27 [241/412]		

Numbers in () brackets show cumulative values, numbers in [] brackets show current values.

¹ The difference to the previous day relates to data entry at RKI; due to delay in data transmission former cases 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 about disease onset and hospitalization but not for late effects because such data were not recorded regularly.

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 07/01/2021, 12:00 AM)

- Currently, the number of transmissions in the population in Germany is high. RKI now judges the level of threat to the health of the general population as **very high**.
- Yesterday, **26,391** new laboratory-confirmed COVID-19 cases as well as **1,070** new deaths associated with COVID-19 were transmitted to the RKI in Germany. The national 7-day incidence is **122** cases per 100,000 population. In Saxony and Thuringia, it is markedly above the national incidence.
- 410 districts have a high 7-day COVID-19 incidence. **241** districts have an incidence of >100 cases/100,000 population and of these, **25** districts have an incidence of >250-500 cases/100,000 population.
- The 7-day incidence of people 60-79 years is currently **97** and of people ≥80 years **237** cases/100,000 population.
- The high nationwide number of cases is caused by increasingly diffuse transmission, with numerous clusters especially in households and nursing and long-term care homes.
- On 07/01/2021 **5,491** COVID-19 patients were in intensive care. In the preceding 24 hours, **845** existing patients were discharged (**24 %** of whom had died) and **767** patients were newly admitted. The resulting number of cases under treatment was **78** less than the prior day.
- Since 26/12/2020 a total of **417,060** people in Germany have been vaccinated against COVID-19 (**5,0 vaccinated per 1,000 population**) (<http://www.rki.de/covid-19-impfquoten>).
- Testing and notification activities may have been lower during the festive season, resulting in a putatively incomplete picture of the epidemiological situation in Germany of the previous two weeks.

Epidemiological Situation in Germany

In accordance with the international standards of WHO¹ and ECDC², the RKI considers all laboratory confirmations of SARS-CoV-2 and confirms these via nucleic acid based (e.g. PCR) or direct pathogen detection, irrespective of the presence and severity of clinical symptoms, as COVID-19 cases. 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

Since the beginning of December, there has been a renewed sharp rise in the number of cases. During the holidays, the number of cases decreased. Whether the number of infections is actually declining will only become clear in the course of the next few days.

The R-value is currently below 1. However, due to the still very high number of infected persons in Germany, this still means a high number of new infections per day. Due to the recent holidays, there may still be a delay in the detection, recording and transmission of COVID-19 cases, so that the R-value may also be underestimated.

Outbreaks are being reported from various districts throughout Germany, currently particularly in nursing and long-term care homes 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 have more severe illness due to COVID-19, the number of serious cases and deaths remains on a high level. These can be avoided if all 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 community mask correctly. Crowds of people - especially indoors - should be avoided.

On 12/19/2020, a new virus variant (B.1.1.7) was reported in the UK. To date, it is unknown how the new virus variant will affect the COVID-19 pandemic. Cases with the new variant have already been detected in numerous countries around the world. So far, a few cases of this new variant have been transmitted to the RKI. Further cases may be expected. WHO has also reported another new virus variant detected in South Africa possibly associated with higher transmissibility and more severe disease.

Due to the holidays, it should be noted when interpreting the case numbers that, on the one hand, fewer people usually visited a doctor, as a result of which fewer samples were taken and fewer laboratory tests were performed. This may lead to fewer notified cases at the local level and hence to fewer transmitted COVID-19 cases to the RKI. Furthermore, not all local and state health authorities transmit data to the RKI on all days.

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 **1,835,038 (+26,391)** 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 (07/01/2021, 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	250,675	1,278	2,258	11,232	101	5,207	46.9
Bavaria	342,280	3,494	2,608	15,971	122	7,424	56.6
Berlin	102,070	1,310	2,782	4,492	122	1,445	39.4
Brandenburg	45,720	1,164	1,813	3,428	136	1,143	45.3
Bremen	14,069	154	2,065	504	74	209	30.7
Hamburg	39,154	579	2,120	2,084	113	725	39.2
Hesse	145,009	2,084	2,306	7,939	126	3,278	52.1
Mecklenburg-Western Pomerania	13,701	476	852	1,656	103	215	13.4
Lower Saxony	114,282	2,116	1,430	6,050	76	2,206	27.6
North Rhine-Westphalia	415,041	6,043	2,313	20,928	117	7,507	41.8
Rhineland-Palatinate	76,991	1,106	1,881	4,403	108	1,632	39.9
Saarland	20,805	308	2,108	887	90	483	48.9
Saxony	146,658	3,536	3,602	10,987	270	3,626	89.0
Saxony-Anhalt	33,929	910	1,546	3,503	160	777	35.4
Schleswig-Holstein	27,078	542	933	2,297	79	514	17.7
Thuringia	47,576	1,291	2,230	4,958	232	1,216	57.0
Total	1,835,038	26,391	2,206	101,319	122	37,607	45.2

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.

*During the festive season COVID-19 cases were detected, notified and transmitted with delays.

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 **1,019,288** cases (56%) thus their date of reporting is provided in Figure 1.

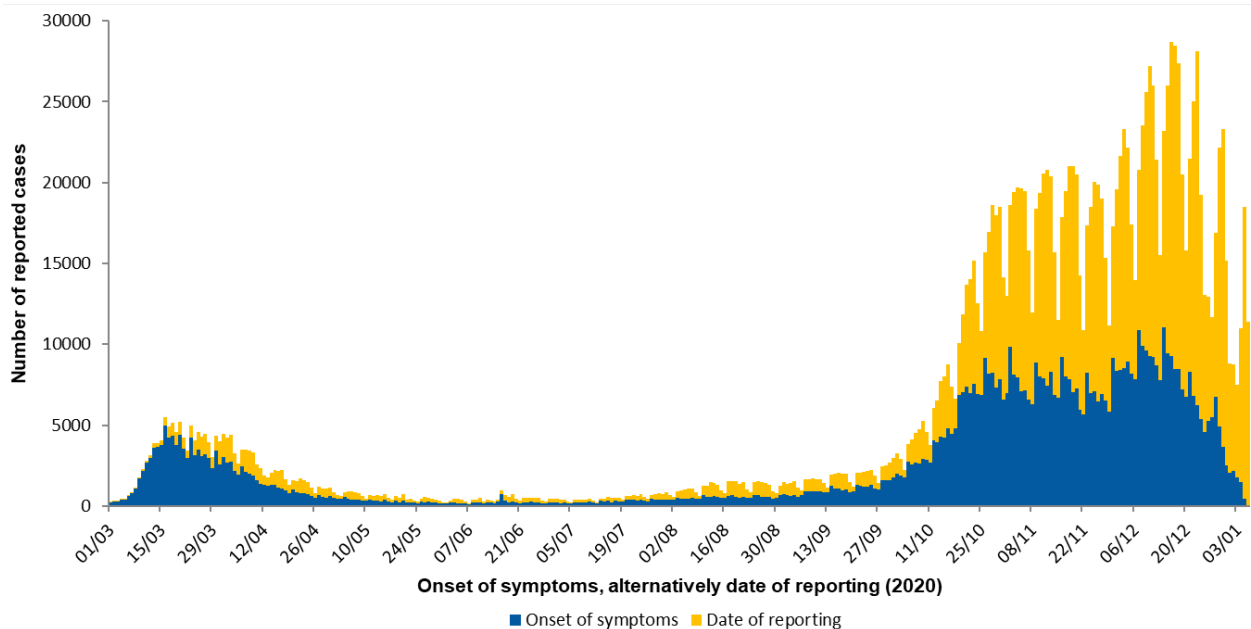


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (07/01/2021, 12:00 AM).

*During the festive season COVID-19 cases were detected, notified and transmitted with delays.

Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Act (Infektionsschutzgesetz, IfSG), the RKI receives information on occupation, accommodation or care in a facility relevant for infection control for reported COVID-19 cases.

Since information on occupation, accommodation or care in these facilities is missing in many cases, the numbers of cases working, accommodated or cared for in these facilities reported here should be considered minimum values. Among the COVID-19 cases reported from the above-mentioned facilities, the proportion of cases that actually acquired their infection in these facilities is unknown.

Table 2: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases according to the Protection Against Infection Act (IfSG), reported to RKI (n=238,846 cases; 07/01/2021, 12:00 AM)*.

Facility according to		Total	≥60 years, number / prop.	Hospitalised	Deaths	Recovered (estimate)
§ 23 IfSG (e.g. hospitals, outpatient clinics and practices, dialysis clinics or outpatient nursing services)	Cared for / accommodated in facility	14,933	10,729 / 72%	9,501	2,112	10,600
	Occupation in facility	48,211	3,723 / 8%	1,490	46	43,900
§ 33 IfSG (e.g. day care facilities, kindergartens, facilities for after school care, schools or other educational facilities, children's homes, holiday camps)	Cared for / accommodated in facility*	45,978	N/A	497	3	44,500
	Occupation in facility	22,961	1,783 / 8%	500	19	21,900
§ 36 IfSG (e.g. facilities for the care of older, disabled or other persons in need of care, homeless shelters, community facilities for asylum-seekers, prisons)	Cared for / accommodated in facility	71,263	55,273 / 78%	11,247	10,345	49,800
	Occupation in facility	35,500	4,157 / 12%	948	106	31,800

*for care according to § 33 IfSG only cases under 18 years of age are considered, as other information may be assumed to be incorrect. Due to changes in the variables, no notifications according to §42 are listed here.

*During the festive season COVID-19 cases were detected, notified and transmitted with delays.

The number of COVID-19 cases was highest among persons cared for or employed in care facilities according to § 36 IfSG, among persons employed in medical facilities according to § 23 IfSG and among

persons cared for in educational facilities according to § 33 IfSG (Table 2). The number of deaths was particularly high among persons cared for in facilities according to §§ 23 and 36. The high number of cases among people cared for or working in various care facilities (§ 36 IfSG) is consistent with numerous reported outbreaks, especially in nursing homes.

Outbreaks

An increased incidence of >25 cases in 7 days/100,000 population was reported in 410 from 412 districts. There are 25 districts with incidences of >250 to 500 cases/100,000 in the last 7 days. 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 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 2), 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 other 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, values estimated towards the end of a week were more stable. The currently estimated course of the R-value is shown in Figure 3.

4-day R-value	7-day R-value
0.77 (95%-prediction interval: 0.66 – 0.89)	0.92 (95%-prediction interval: 0.85 – 1.01)

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. **During the festive season COVID-19 cases were detected, notified and transmitted with delays, thus the R-value may be under-estimated.**

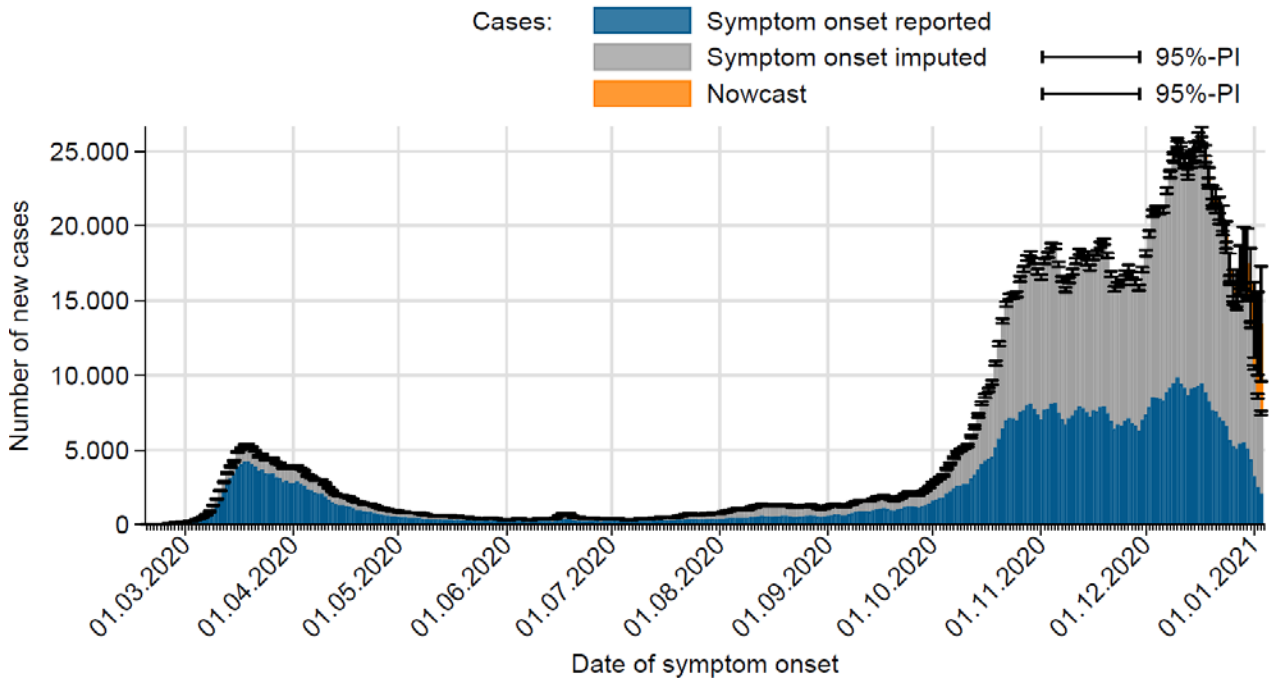


Figure 2: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (orange) (as of 07/01/2021, 12 AM, considering cases up to 03/01/2021).

*During the festive season COVID-19 cases were detected, notified and transmitted with delays.

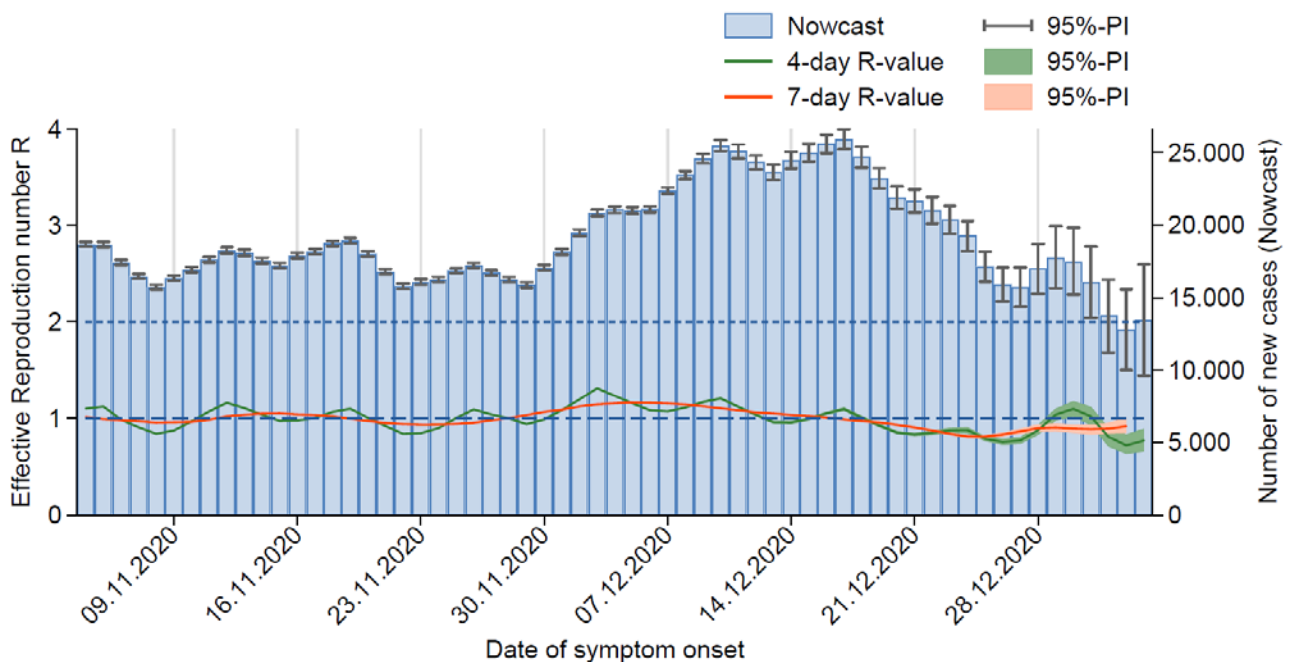


Figure 3: The estimated R-values (in green and orange) over the last 60 days, against the background of estimated number of COVID-19 cases according to illness onset (as of 07/01/2021, 12 AM, considering cases up to 03/01/2021).

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The R-value is currently below 1. However, due to the still very high number of infected persons in Germany, this still means a high number of new infections per day. Due to the recent holidays, there may still be a delay in the detection, recording and transmission of COVID-19 cases, so that the R-value may also be underestimated.

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 07/01/2021, a total of **1,285** hospitals or departments reported to the DIVI registry. Overall, **26,940** intensive care beds were registered, of which **22,462** (83%) are occupied, and **4,478** (17%) are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 3.

Table 3: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (07/01/2021, 12:15 PM).

		Number of patients	Change to previous day*
Currently	Currently in ICU	5,491	-78
	- thereof with invasive ventilation	3,099 (56%)	-24
	New admissions to ICU		+767
Total	Discharged from ICU	54.698	+845
	- thereof deaths	14.571 (27%)	+203 (24%)

*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.

Information from additional RKI based surveillance systems for acute respiratory illnesses

GrippeWeb ("FluWeb") is a web interface at RKI for monitoring the activity of acute respiratory illness (ARI), utilizing information from the population. In weeks **52 and 53**, 2020, the rate of ARI ("ARI rate") **decreased for both children and adults**. The ARI rate has been below the level of the previous years since week 36, 2020. Further information can be found under <https://grippeweb.rki.de/>.

The Influenza Working Group (AGI) monitors ARI through a sentinel network of physicians in private practices. In weeks **52 and 53**, 2020, the overall number of patients visits due to acute respiratory infections (ARI rate) **decreased**. The ARI rate **was** on a level **comparable to the previous turns of the year** of previous seasons. Within the viral surveillance of the AGI, respiratory viruses were detected in **32** of **111** sentinel samples (**39%**) in weeks **52 and 53**, 2020. Among those, rhinovirus was identified in **17** samples (**15%**) and SARS-CoV-2 was found in **15** samples (**14%**). **Since week 40, 2020, SARS-COV-2 has been found in 101 (8%) of 1,319 samples. Influenza virus or Respiratory Syncytial Virus have been detected in none of the 1,325 samples tested since week 40,2020.** Further information can be found under <https://influenza.rki.de/>.

A third, ICD-10 code-based system monitors severe acute respiratory illness (SARI) in hospitalized patients (ICD-10 codes J09 to J22: primary diagnoses influenza, pneumonia or other acute infections of the lower respiratory tract). In week 52, 2020, the total number of SARI cases decreased. The number of SARI cases in the age group 35 to 59 years remained on a high level, comparable to the level at the peak of previous influenza seasons. In contrast, the number of SARI cases aged 60 years or above has decreased from the very high level in weeks 50 and 51, 2020 to the usual seasonal level. The number of SARI cases in children aged 0 to 14 years has been below the usual level since week 40, 2020.

Since week 45, 2020, more than half of the reported SARI cases per week have been diagnosed with COVID-19 (ICD-10 code U07.1!) (Figure 4). In weeks 51 and 52, 2020, the proportion of COVID-19 infections remained on a high level at 66% and 70%, respectively. The proportion of COVID-19 infections among SARI by age groups can be found in Table 4. The proportions of COVID-19 cases in all age groups in the weeks 40 to 51, 2020 have been more than twice as high as in spring (weeks 12 to 20, 2020). In week 52, 2020, the proportion of COVID-19 cases was exceptionally high in the age groups above 14 years, comprising at least 70% of the SARI cases in this week. This proportion was highest in SARI cases aged between 35 to 59 years at 77%. Within the 72 sentinel hospitals, there were no COVID-19 cases among SARI patients below 15 years of age in week 52, 2020. Please note that due to data availability only patients with an ICD-10 Code for SARI as the main diagnosis and hospitalisation duration of up to one week were included in this analysis.

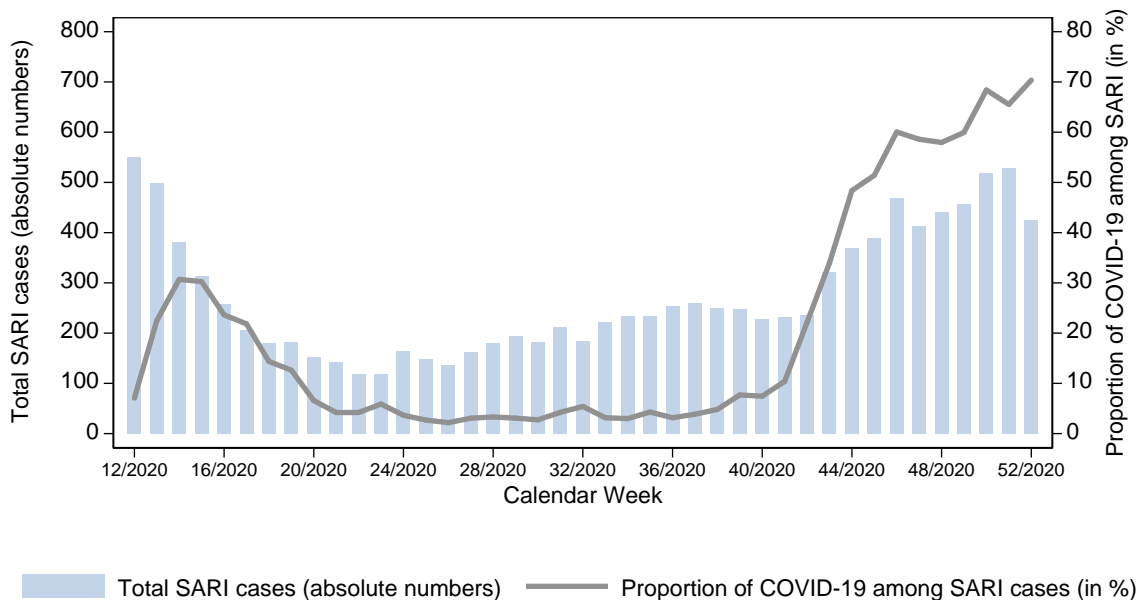


Figure 4: Weekly number of SARI cases (ICD-10 codes J09-J22) and proportion of cases with a diagnosis of COVID-19 (ICD-10 code U07.1!) among SARI cases with duration of hospitalization of up to one week and with date of admission in weeks 12 to 52, 2020, from 72 sentinel hospitals

Table 4: Total number of SARI cases (ICD-10 codes J09-J22) and proportion of cases with a diagnosis of COVID-19 (ICD-10 code U07.1!) among SARI cases by age groups for different time periods since week 12, 2020; only patients with duration of hospitalization of up to one week, data from 72 sentinel hospitals

Age group		week 12 - 20, 2020	week 21 - 39, 2020	week 40 - 48, 2020	week 49 2020
0 to 14 years	SARI cases (total)	322	869	448	22
	Proportion of COVID-19 (%)	0.3%	0.2%	3.1%	0.0%
15 to 34 years	SARI cases (total)	178	188	278	20
	Proportion of COVID-19 (%)	19%	13%	53%	70%
35 to 59 years	SARI cases (total)	534	510	997	100
	Proportion of COVID-19 (%)	31%	13%	66%	77%
60 years and older	SARI cases (total)	1,689	2,076	2,876	283
	Proportion of COVID-19 (%)	19%	2.6%	53%	73%
Overall	SARI cases (total)	2,723	3,643	4,599	425
	Proportion of COVID-19 (%)	19%	4.0%	51%	70%

Data on emergency department utilization

In collaboration with the National Emergency Department Register AKTIN (<https://www.aktin.org/en/>), and with the ESEG project partners (https://www.rki.de/EN/Content/infections/epidemiology/ESEG/ESEG_node.html), the RKI analyses emergency department utilisation, and prepares weekly situation report: <https://www.rki.de/EN/Content/Institute/DepartmentsUnits/InfDiseaseEpidem/Div32/sumo/sumo.html>.

Within the emergency department situation report of the **06 January 2021**, data from **21** emergency departments have been included from **01 January 2019** up to and including **03 January 2021**. In week **53-2020**, **11,666** admissions were recorded; which was a **+12.1%** change compared to last week, and a **-26.9%** average change compared to the mean of the pre-pandemic year 2019 (see Figure 5).

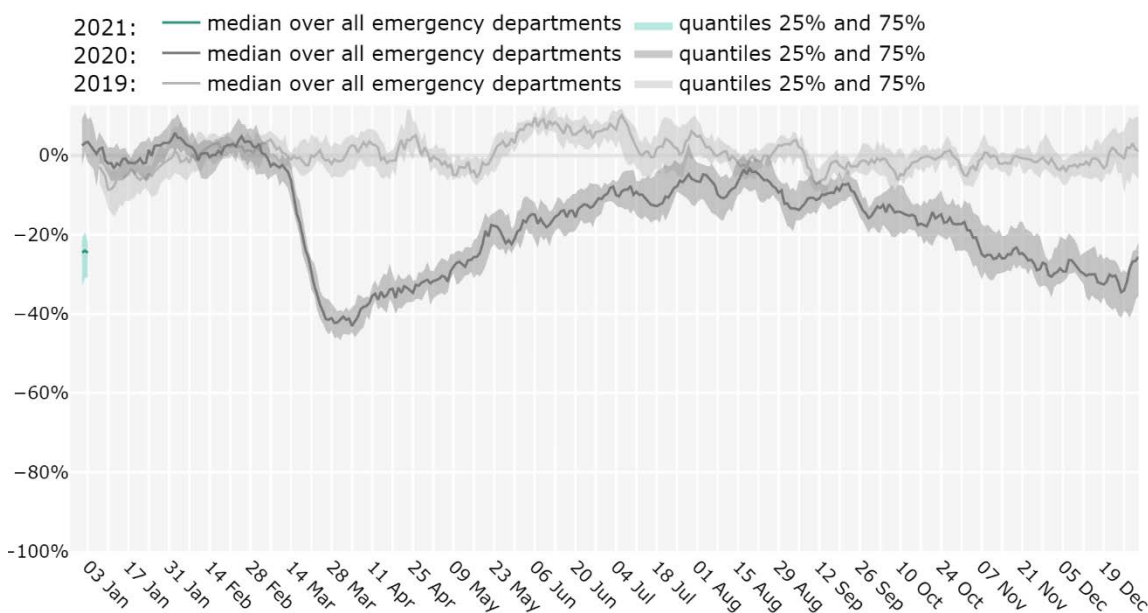


Figure 5: Relative deviation of admissions in each emergency department compared to its mean in 2019, from January 2019 to January 2021 (as of 06 January 2021), averaged over all emergency departments.

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

Risk Assessment by the RKI

In view of persistently high case numbers, the RKI now judges 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 substantially reduced. 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

- Further governmental resolutions regarding additional containment measures (Lockdown, 05/01/2021. *in German*) <https://www.bundesregierung.de/breg-de/themen/coronavirus/mpk-beschluss-corona-1834364>
- Vaccination started in Germany on the 26th of December 2020 <http://www.rki.de/covid-19-impfquoten> *(in German)*
- Regulation to protect against entry-related infection risks regarding novel mutations of the coronavirus SARS-CoV-2 (21/12/2020. *in German*) https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/3_Downloads/C/Coronavirus/Verordnungen/CoronaSchV_BAnz_AT_21.12.2020_V4.pdf
- Information on the designation of international risk areas https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.html
- Recommendations on COVID-19-vaccination (17.12.2020. *in German*) <https://www.rki.de/DE/Content/Infekt/Impfen/ImpfungenAZ/COVID-19/Impfempfehlung-Zusfassung.html>
- Third law on protection of the population in the event of an epidemic of national concern (18/11/2020. *in German*) <https://www.bundesgesundheitsministerium.de/service/gesetze-und-verordnungen/guv-19-lp/drittes-bevoelkerungsschutzgesetz.html>
- National Testing Strategy – who will be tested for SARS-CoV-2 in Germany (30/11/2020. *in German*) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Nat-Teststrat.html
- Important information and guidance on the novel coronavirus SARS-CoV-2 for returning travellers (08/11/2020) 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/EN/Content/infections/epidemiology/outbreaks/COVID-19/COVID19.html>
- 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>

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

- 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>
- Data on current disease activity can be found on the RKI dashboard:
<https://corona.rki.de/>