



## Coronavirus Disease 2019 (COVID-19)

### Daily Situation Report of the Robert Koch Institute

23/10/2020 - UPDATED STATUS FOR GERMANY

Total (cumulative)		Previous 7 days	
Confirmed cases	Deaths	Confirmed cases	7-day incidence
<b>403,291</b> (+11,242*)	<b>9,954</b> (+49*)	<b>50,123</b> (+3,352*)	<b>60.3 cases/ 100,000 population</b>
Proportion of deaths	Recovered	No. of districts reporting cases	No. of districts with 7- day incidence > 50
<b>2.5%</b>	<b>ca. 310,300**</b> (+4,200**)	<b>412/412</b> (+1*)	<b>198</b> (+32*)

\*Change from previous day; \*\*Estimate

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 23/10/2020, 12:00 AM)

- Currently, an accelerated increase of transmissions in the population in Germany can be observed. Therefore, the entire population is strongly encouraged to commit itself to infection prevention and control.
- The nationwide incidence over the past 7 days increased to **60.3** cases per 100,000 population.
- The 7-day incidence is considerably higher in Berlin, Bremen, Hesse and North Rhine-Westphalia, and moderately higher in Bavaria, **Baden-Wuerttemberg** and Saarland than the national average 7-day incidence.
- The number of districts with an increased 7-day incidence of >25 cases/ 100,000 inhabitants continues to rise, to **329** urban and rural districts. Of these, **35** districts have an incidence of > 100 cases/100,000 population and **163** districts have an incidence of > 50-100 cases/100,000 population.
- Since the beginning of September the proportion of cases in older age groups has been increasing again (ref. Daily Situation Report of 20.10.2020).
- A number of COVID-19-related outbreaks continue to be reported in various settings. Case clusters are being reported particularly in the context of family events, and in nursing homes.
- In total, **403,291** laboratory-confirmed COVID-19 cases and **9,954** deaths associated with COVID-19 have been transmitted to the RKI in Germany.

# Epidemiological Situation in Germany

In accordance with the international standards of WHO<sup>1</sup> and ECDC<sup>2</sup>, RKI considers all laboratory confirmations of SARS-CoV-2, 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

After a temporary stabilisation of case numbers at a higher level in late August and early September, there is currently an increase of transmission within the population in nearly all federal states. The proportion of COVID-19 cases in the older age groups is currently increasing. Since the start of October, R-values have been clearly above 1.

There are outbreaks in various districts throughout Germany, which are associated with different situations, including large celebrations in the family and circle of friends, in occupational settings, and in old people's and nursing homes. In addition, in many districts there is an increasingly diffuse spread of SARS-CoV-2, without traceable transmission chains.

Since end July, the proportion of deaths among COVID-19 cases has been consistently below 1% and is thus markedly lower than in the spring, particularly in April (ref. Daily Situation Report of 20 Oct 2020). However, it is regarded as implausible that the virus has become less pathogenic. Rather, the low proportion of deaths can be explained as follows: On the one hand, recent infections have occurred mainly among young people, who most of the time experience a less severe course of disease. On the other hand there is also broader testing, which means more milder cases are identified.

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 if possible and celebrations should be limited to the closest circle of family and friends.

<sup>1</sup> World Health Organization, [https://www.who.int/publications/i/item/WHO-2019-nCoV-Surveillance\\_Case\\_Definition-2020.1](https://www.who.int/publications/i/item/WHO-2019-nCoV-Surveillance_Case_Definition-2020.1)

<sup>2</sup> 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 **403,291 (+11,242)** 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 (23/10/2020, 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	Total number of cases	Number of new cases*	Cases/100,000 pop.	Cases in the last 7 days	7-day incidence per 100,000 pop.	Number of deaths	Number of deaths/100,000 pop.
Baden-Wuerttemberg	65,085	1953	586	6,803	61.3	1,957	17.6
Bavaria	86,054	1964	656	8,753	66.7	2,734	20.8
Berlin	24,481	783	667	3,882	105.8	245	6.7
Brandenburg	6,020	72	239	675	26.8	179	7.1
Bremen	3,876	8	569	508	74.6	63	9.2
Hamburg	10,683	276	578	975	52.8	283	15.3
Hesse	29,398	958	468	5,063	80.5	600	9.5
Mecklenburg-Western Pomerania	1,936	59	120	318	19.8	21	1.3
Lower Saxony	28,078	652	351	2,973	37.2	723	9.0
North Rhine-Westphalia	100,247	2740	559	13,363	74.5	1,994	11.1
Rhineland-Palatinate	15,186	546	371	2,067	50.5	267	6.5
Saarland	4,856	231	492	686	69.5	178	18.0
Saxony	12,071	564	296	2,146	52.7	272	6.7
Saxony-Anhalt	3,642	155	166	505	23.0	73	3.3
Schleswig-Holstein	6,284	137	216	742	25.6	164	5.6
Thuringia	5,394	144	253	664	31.1	201	9.4
<b>Total</b>	<b>403,291</b>	<b>11,242</b>	<b>485</b>	<b>50,123</b>	<b>60.3</b>	<b>9,954</b>	<b>12.0</b>

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.

\*Due to a three-hour server failure at the RKI on 22.10.2020, it is possible that not all data records could be transmitted yesterday by the health authorities and the responsible state authorities. So far it is unclear how many cases are affected. Thus, the number of new cases is probably underestimated today. The cases will be transmitted subsequently in the course of today, so that tomorrow the difference to the previous day will also include the subsequently transmitted cases and will therefore be overestimated.

## 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 172,114 cases (43%), thus their date of reporting is provided in Figure 1.

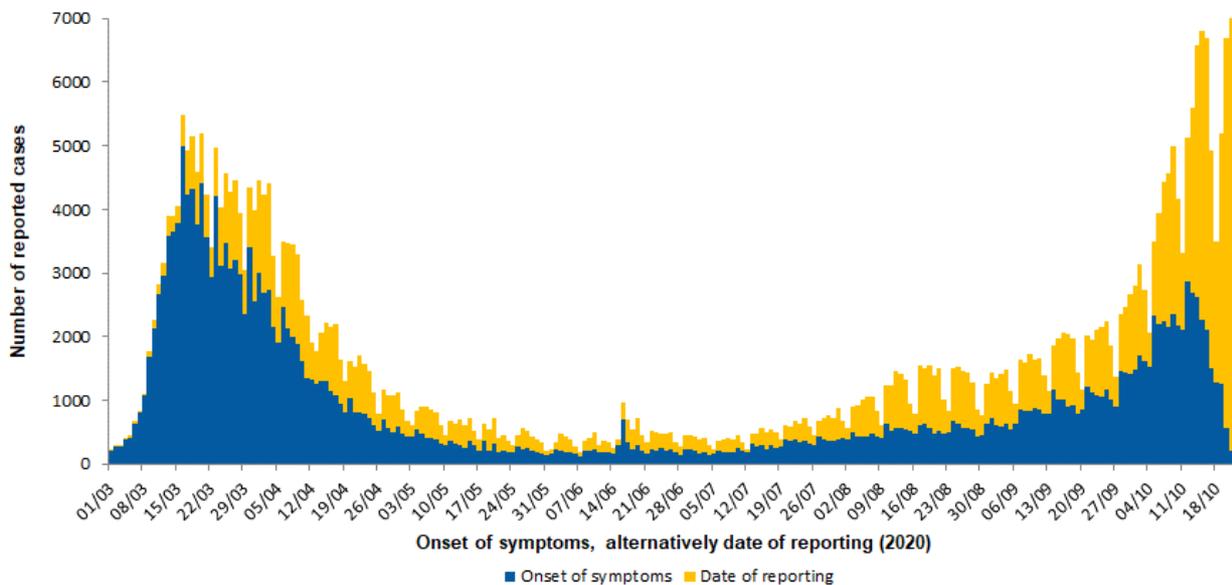


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (23/10/2020, 12:00 AM).

## 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 39% of 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.

The number of COVID-19 cases was highest among persons cared for or employed in care facilities according to § 36 IfSG and among persons employed in medical facilities according to § 23 IfSG (Table 2). The number of deaths was particularly high among persons cared for in these facilities.

Among the cases reported as working in medical facilities (§ 23 IfSG), 73% were female and 27% male. Their median age was 40 years. 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. The high number of cases among persons working in the food sector (§ 42 IfSG) is largely due to outbreaks in meat processing plants.

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 (400,334\* cases, no data available for 145,284 cases; 23/10/2020, 12:00 AM)

Facility according to		Total	Hospitalised	Deaths	Recovered (estimate)
§ 23 IfSG (e.g. hospitals, outpatient clinics and practices, dialysis clinics or outpatient nursing services)	Cared for / accommodated in facility	4,806	3,219	739	3,700
	Occupation in facility	17,960	739	24	17,100
§ 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*	12,715	174	1	11,000
	Occupation in facility	6,161	224	8	5,400
§ 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, repatriates and refugees as well as other mass accommodation and prisons)	Cared for / accommodated in facility	21,810	4,613	3,823	17,000
	Occupation in facility	12,171	503	43	11,600
§ 42 IfSG (e.g. meat processing plants or kitchens in the catering trade, in inns, restaurants, canteens, cafés, or other establishments with or for communal catering)	Occupation in facility	7,271	282	6	6,800
Neither cared for, accommodated in nor working in a facility		172,156	20,785	3,837	152,300

\*for care according to § 33 IfSG only cases under 18 years of age are taken into account, as other information may be assumed to be incorrect. Due to changes in data registration, not all data entries for cases ascertained in the most recent version of the surveillance software could be taken into account. This will be corrected in the coming days.

## Outbreaks

An increased incidence of >25 cases in 7 days/100,000 population was reported for **329** districts, including **35** urban and rural districts with an incidence of over 100 cases/100,000 population and **163** districts with a 7-day incidences of >50 -100 cases/100,000 population. The dashboard (<https://corona.rki.de>) shows all affected districts.

In most districts the transmission is diffuse, with occasional clustering in the context of celebrations with family and friends. On some occasions, specific large outbreaks have been the cause for large increases in the concerned districts. However, many small outbreaks in old people's and nursing homes, in hospitals and facilities for asylum seekers and refugees, and community facilities, kindergartens and schools, various occupational settings and in the context of religious gatherings continue to contribute to the increase of incidence.

In the district Erzgebirgskreis, COVID-19 cases have occurred in more than 10 inpatient care facilities.

Two larger outbreak events contribute to the increased incidence in the district Rottal-Inn, an outbreak among residents of a shared accommodation, as well as cases of infected residents and employees in a nursing home.

## Estimation of the reproduction number (R)

The reproduction number, R, is defined as the mean number of people infected by one infected person. R can only be estimated based on statistical analyses such as nowcasting (Figure 2) and not directly extracted from the notification system.

4-day R-value	7-day R-value
1.23	1.30
(95%-prediction interval: 1.00 – 1.49)	(95%-prediction interval: 1.17 – 1.47)

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.

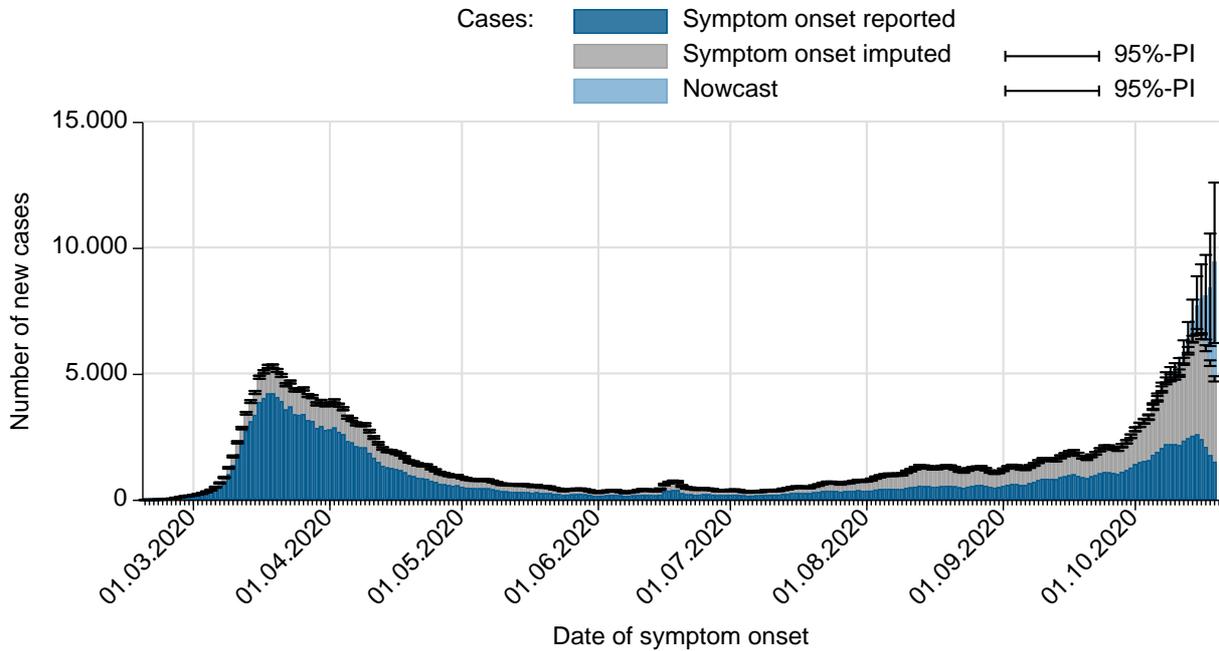


Figure 2: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 23/10/2020, 12 AM, taking into account cases up to 19/10/2020).

Since the start of October the R-values clearly have exceeded 1.

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](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](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/#/intensivregister>).

As of 22/10/2020, a total of 1,284 hospitals or departments reported to the DIVI registry. Overall, 29,520 intensive care beds were registered, of which 21,736 (74%) are occupied, and 7,784 (26%) are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 3.

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

Table 3: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (23/10/2020, 12:15 PM).

	Number of patients	Percentage	Change to previous day*
<b>Currently in ICU</b>	1.121		+91
- of these: with invasive mechanical ventilation	478	43%	+19
<b>Discharged from ICU</b>	19.394		+165
- of these: deaths	4.461	23%	+18

\*The interpretation of these numbers must take into account 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.

## Mortality Monitoring

A total of 24 European countries provide the European EuroMOMO project (European monitoring of excess mortality for public health action) with official mortality statistics on a weekly basis which allows the detection and measuring of excess deaths related to e.g. seasonal influenza and pandemics (<https://www.euromomo.eu/>). In Germany, two regional systems that allow the transmission of data have been established so far (since 2007 in Berlin and Hesse). The establishment of a nationwide monitoring system is planned from 2021 onwards.

An increase in all-cause mortality was observed in conjunction with the COVID-19 pandemic primarily in April 2020. Excess mortality was observed primarily in persons 65 years of age and older, but also among those 15 to 64-years of age. Excess mortality was highest in Belgium, France, Italy, the Netherlands, Spain, Sweden, Switzerland and the UK. All-cause mortality for the countries in the EuroMOMO network has now largely returned to expected levels even if in some countries there seems to be a small excess mortality.

Weekly mortality statistics are also recorded on the website of the Federal Statistical Office, albeit with a certain time lag. A special evaluation of excess mortality is normally updated weekly every two weeks. <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Sterbefaelle-Lebenserwartung/Tabellen/sonderauswertung-sterbefaelle.html> (in German).

Looking at the development by months, in March 2020 there was no noticeable increase in the number of deaths compared to March of the previous year. In April, however, all-cause mortality was significantly above the average of previous years; but decreased to expected levels since the beginning of May. In the first weeks of September, the number of deaths surpassed slightly the average of the previous years. In calendar week 38, 2020 (14/09 – 20/09/2020), 17,107 people deceased (+312 compared to week 37) <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Sterbefaelle-Lebenserwartung/sterbefallzahlen.html>.

## Risk Assessment by the RKI

In view of the recent further increase in case numbers, the risk assessment of the RKI was adapted to the epidemiologic situation on 07/10/2020. The current version can be found here: <https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/Risk-assessment.html>

## Measures taken in Germany

- National Testing Strategy – who will be tested for SARS-CoV-2 in Germany (14/10/2020) (*in German*)  
[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Teststrategie/Nat-Teststrat.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Nat-Teststrat.html)
- SARS-CoV-2 test criteria for schools during the COVID 19 pandemic (12/10/2020) (*in German*)  
[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Teststrategie/Testkriterien-Schulen.pdf](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Teststrategie/Testkriterien-Schulen.pdf)
- Preventive measures in schools during the COVID 19 pandemic (12/10/2020) (*in German*)
- [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Praevention-Schulen.pdf](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Praevention-Schulen.pdf)
- Selected and regularly updated information on COVID-19 in English  
<https://www.rki.de/EN/Content/infections/epidemiology/outbreaks/COVID-19/COVID19.html>
- Information on the designation of international risk areas  
[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Risikogebiete\\_neu.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.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>
- Regulations for persons entering Germany in connection with the novel coronavirus SARS-CoV-2 (15/09/2020) (*in German*)  
[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Transport/BMG\\_Merkblatt\\_Reisende\\_Tab.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Transport/BMG_Merkblatt_Reisende_Tab.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>
- Data on current disease activity can be found on the RKI dashboard:  
<https://corona.rki.de/>
- A distance of 1.5 metres to other individuals must be maintained in public spaces: (*in German*)  
<https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundeskanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248>
- (Non-medical) face masks must be worn on public transport and in shops in all federal states.