



## Coronavirus Disease 2019 (COVID-19)

### Daily Situation Report of the Robert Koch Institute

28/10/2020 - UPDATED STATUS FOR GERMANY

Total (cumulative)		Previous 7 days	
<b>Confirmed cases</b>	<b>Deaths</b>	<b>Confirmed cases</b>	<b>7-day incidence</b>
<b>464,239</b> (+14,964*)	<b>10,183</b> (+85*)	<b>77,866</b> (+5,546*)	<b>93.6 cases/ 100,000 population</b>
<b>Proportion of deaths</b>	<b>Recovered</b>	<b>7-day incidence of people ≥ 60 years</b>	<b>No. of districts with 7- day incidence &gt; 50</b>
<b>2.2%</b>	<b>ca. 332,800**</b> (+6,100**)	<b>59.3 cases/ 100,000 population</b>	<b>98</b> (+13*)

\*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 28/10/2020, 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 *further* to **93.6** cases per 100,000 population.
- Since the beginning of September, the proportion of cases in older age groups has been increasing again. *The 7-day incidence of people ≥ 60 years is currently 59.3 cases/100.000 population.*
- The 7-day incidence in Bavaria, Berlin, Bremen, Hesse, North Rhine-Westphalia and Saarland is higher than the national total 7-day incidence.
- The number of districts with an increased 7-day incidence of >25 cases/ 100,000 inhabitants continues to rise, to **384** urban and rural districts. Of these, **132** districts have an incidence of >100 cases/100,000 population and **166** districts have an incidence of >50-100 cases/100,000 population. *Twelve districts* have an incidence of >200 cases/100,000 population.
- A number of COVID-19-related outbreaks continue to be reported in various settings. Case clusters are being reported particularly in the context of private meetings, celebrations and group events with case clusters also being reported in nursing homes.
- The number of COVID-19 patients requiring intensive care has more than doubled in the past 2 weeks from **602** patients on **14/10/2020** to **1,569** patients on **28/10/2020**.
- In total, **464,239** laboratory-confirmed COVID-19 cases and **10,183** 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 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.

<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 **464,239 (+14,964)** 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 (28/10/2020, 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	72,884	2,092	657	10,114	91.1	1,986	17.9
Bavaria	96,420	3,130	735	13,758	104.8	2,772	21.1
Berlin	28,064	1,040	765	4,789	130.5	251	6.8
Brandenburg	6,957	358	276	1,015	40.2	187	7.4
Bremen	4,689	194	688	974	143.0	66	9.7
Hamburg	12,153	300	658	1,620	87.7	283	15.3
Hesse	35,688	1,488	568	8,123	129.2	629	10.0
Mecklenburg-Western Pomerania	2,328	128	145	503	31.3	22	1.4
Lower Saxony	32,244	1,206	403	4,938	61.8	735	9.2
North Rhine-Westphalia	117,278	3,084	653	21,854	121.8	2,059	11.5
Rhineland-Palatinate	17,789	699	435	3,288	80.3	276	6.7
Saarland	5,576	121	565	956	96.9	181	18.3
Saxony	14,409	408	354	2,783	68.3	292	7.2
Saxony-Anhalt	4,342	176	198	869	39.6	74	3.4
Schleswig-Holstein	7,218	276	249	1,214	41.8	167	5.8
Thuringia	6,200	264	291	1,068	50.1	203	9.5
<b>Total</b>	<b>464,239</b>	<b>14,964</b>	<b>558</b>	<b>77,866</b>	<b>93.6</b>	<b>10,183</b>	<b>12.2</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.

## 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 210,010 cases (45%), thus their date of reporting is provided in Figure 1.

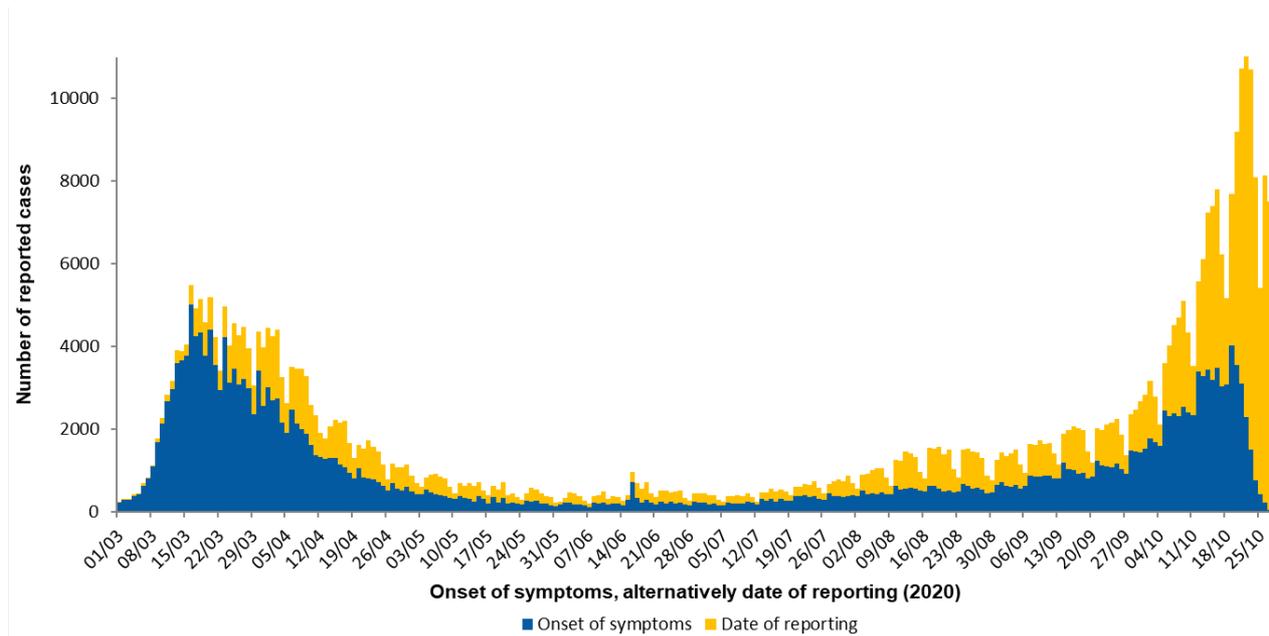


Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or – if unknown – alternatively by date of reporting since 01/03/2020 (28/10/2020, 12:00 AM).

## 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 41% 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 (461,007\* cases, no data available for 191,718 cases; 28/10/2020, 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	<b>5,021</b>	3,301	748	3,800
	Occupation in facility	<b>18,605</b>	751	24	17,400
§ 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*	<b>13,707</b>	186	1	11,800
	Occupation in facility	<b>6,666</b>	233	8	5,700
§ 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	<b>22,537</b>	4,691	3,849	17,300
	Occupation in facility	<b>12,603</b>	512	42	11,800
§ 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	<b>7,524</b>	291	5	7,000
Neither cared for, accommodated in nor working in a facility		<b>182,626</b>	21,315	3,878	159,600

\*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 **384** districts, including **132** urban and rural districts with an incidence of over 100 cases/100,000 population and **166** districts with a 7-day incidence 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 several cases 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 affected districts. However, many small outbreaks in retirement 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.

## 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
1.03	1.17
(95%-prediction interval: (0.86 - 1.20))	(95%-prediction interval: 1.06 – 1.29)

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.

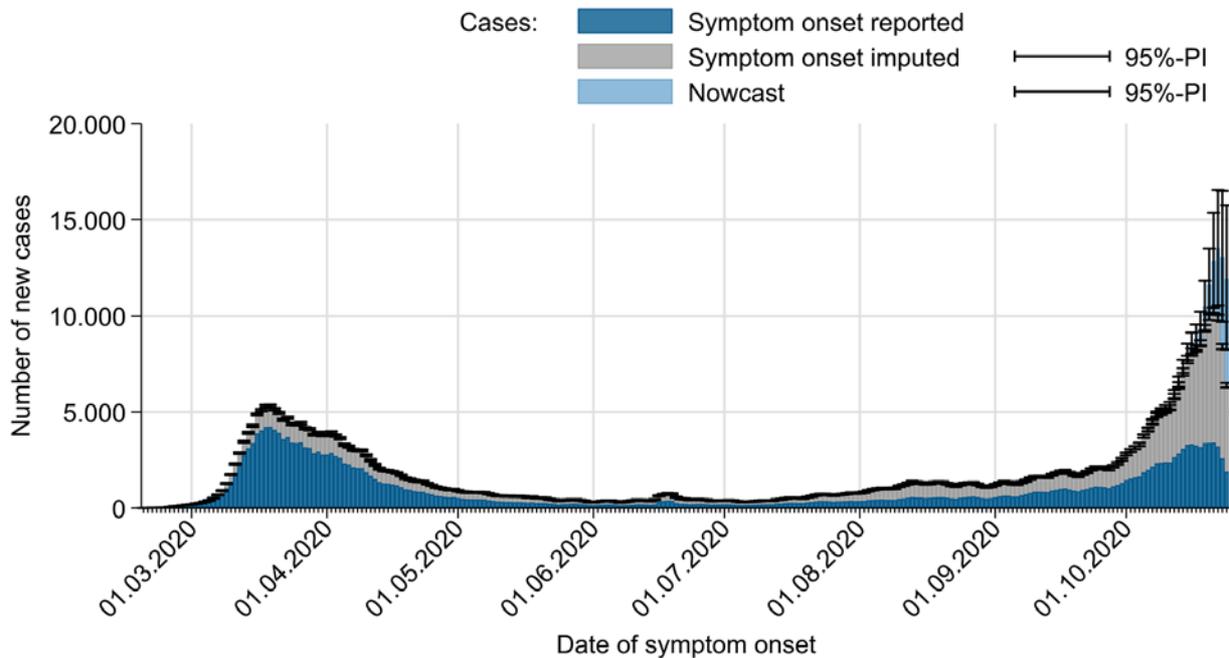


Figure 2: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 28/10/2020, 12 AM, taking into account cases up to 24/10/2020).

Since the start of October the R-values have been clearly greater than 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 28/10/2020, a total of **1,285** hospitals or departments reported to the DIVI registry. Overall, **29,336** intensive care beds were registered, of which **21,790** (74%) are occupied, and **7,546** (26%) 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 (27/10/2020, 12:15 PM).

	Number of patients	Percentage	Change to previous day*
<b>Currently in ICU</b>	1,569		+99
- of these: with invasive mechanical ventilation	764	49%	+76
<b>Discharged from ICU</b>	20,297		+271
- of these: deaths	4,603	23%	+33

\*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.

## Surveys on SARS-CoV-2 laboratory tests in Germany

To assess the SARS-CoV-2 test numbers, data from university hospitals, research institutions as well as clinical and outpatient laboratories throughout Germany are merged weekly at the RKI. These data are ascertained on a voluntary basis and are transmitted to RKI via an internet-based RKI test laboratory survey, via the network for respiratory viruses (RespVir), via the laboratory-based SARS-CoV-2 Surveillance established at the RKI (an extension of the Antibiotic Resistance Surveillance (ARS)) and via the enquiry of a professional association of laboratory medicine.

Since the beginning of testing in Germany up to and including week 43/2020, 21,882,967 laboratory tests have been recorded to date, 497,656 of which have tested positive for SARS-CoV-2.

Up to and including week 43, 253 laboratories have registered for the RKI test laboratory survey or in one of the other transmitting networks and transmit data upon reminder largely on a weekly basis. Since laboratories can register the tests of the previous calendar weeks at a later date, it is possible that the ascertained numbers can increase retrospectively. It should be noted that the number of tests is not the same as the number of persons tested, as the data may include multiple tests of individual patients (Table 4 with data for the last 10 weeks – complete data since beginning of testing are available at [www.rki.de/covid-19-testzahlen](http://www.rki.de/covid-19-testzahlen) (in German)).

Table 4: Number of SARS-CoV-2-laboratory tests in Germany (as of 27/10/2020)

Calendar week 2020	Number of tests	Tested positiv	Proportion positive (%)	Number of reporting laboratories
<b>Up to &amp; including week 32</b>	10,204,841	265,258		
<b>34</b>	1,092,013	9,206	0.84	198
<b>35</b>	1,121,214	8,324	0.74	192
<b>36</b>	1,099,608	8,175	0.74	193
<b>37</b>	1,165,275	10,047	0.86	195
<b>38</b>	1,146,193	13,253	1.16	202
<b>39</b>	1,168,016	14,295	1.22	191
<b>40</b>	1,101,080	18,279	1.66	190
<b>41</b>	1,213,658	30,519	2.51	192
<b>42</b>	1,212,363	43,927	3.62	194
<b>43</b>	1,358,706	76,373	5.62	192
<b>Total</b>	<b>21,882,967</b>	<b>497,656</b>		

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

## 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 26/10/2020. The current version can be found here (in German):

[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Risikobewertung.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikobewertung.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.