



Coronavirus Disease 2019 (COVID-19) Daily Situation Report of the Robert Koch Institute

19/08/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases

226,914

(+ 1,510*)

Deaths

9,243

(+ 7*)

Deaths (%)

4.1%

Recovered

ca. 203,900**

*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 19/08/2020 12:00 AM)

- In the past few weeks the COVID-19 incidence has risen markedly in many federal states and the number of districts reporting zero COVID-19 cases over a period of 7 days has decreased considerably. This trend is very concerning.
- The cumulative nationwide incidence over the past 7 days was **9.3** cases per 100,000 inhabitants and thus remains at an increased level. A total of only **15** districts transmitted zero cases over the past 7 days. In further **152** districts the 7-day-incidence is equal or below 5.0/100,000 inhabitants.
- In North Rhine Westphalia, Berlin and Hesse the 7-day incidences are markedly, in Bavaria and **Rhineland - Palatinate** slightly above the national mean 7-day-incidence.
- In total, **226,914** laboratory-confirmed COVID-19 cases and **9,243** deaths associated with COVID-19 have been electronically reported to the RKI in Germany.
- Moreover, further COVID-19-related outbreaks are being reported in various settings, including nursing homes and hospitals, facilities for asylum-seekers and refugees, community facilities, meat-processing plants, agricultural and other occupational settings, as well as in the context of events with family and friends, religious events and travel.

Epidemiological Situation in Germany

General current assessment

The increase in the number of reported COVID-19 cases over the past weeks can be observed in many of the federal states. It is noticeable that the average age of infection has decreased over the past few weeks, that the incidence particularly in younger age groups has increased and is much higher than in older age groups.

Nationwide, there are reports of many small outbreaks in a number of administrative districts in various settings, such as larger events with family and friends. In addition, a large percentage of COVID-19 cases are being identified among travellers entering Germany, especially among younger age groups.

The number of new cases reported daily has been increasing since calendar week 30. This development is very concerning and increasing in dynamic. A further worsening of the situation must be avoided. On the one hand, the increase in younger age groups needs to be stopped, on the other hand, transmission into older and vulnerable groups needs to be prevented. As soon as the number of infections rises among elderly people, hospitalisations and number of deaths will likely rise as well. This can only be prevented if the entire population continues to be committed to decreasing transmission, e.g. by consistently observing rules of physical distancing and hygiene - also outdoors -, by airing indoor areas and, where indicated, by wearing a community or face mask correctly. Large gatherings – especially indoors – should be avoided, and events with family and friends should be limited to close family members and friends.

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 **226,914 (+1,510)** laboratory-confirmed cases of COVID-19 have been electronically reported to and validated by the RKI (see Figure 1 and Table 1). A total of **15** districts reported no cases in the past 7 days. In the past few weeks, the number of districts not transmitting any COVID-19 cases over a period of 7 days decreased continuously; on 12/07/2020 the number of districts reporting zero cases still amounted to 125 districts.

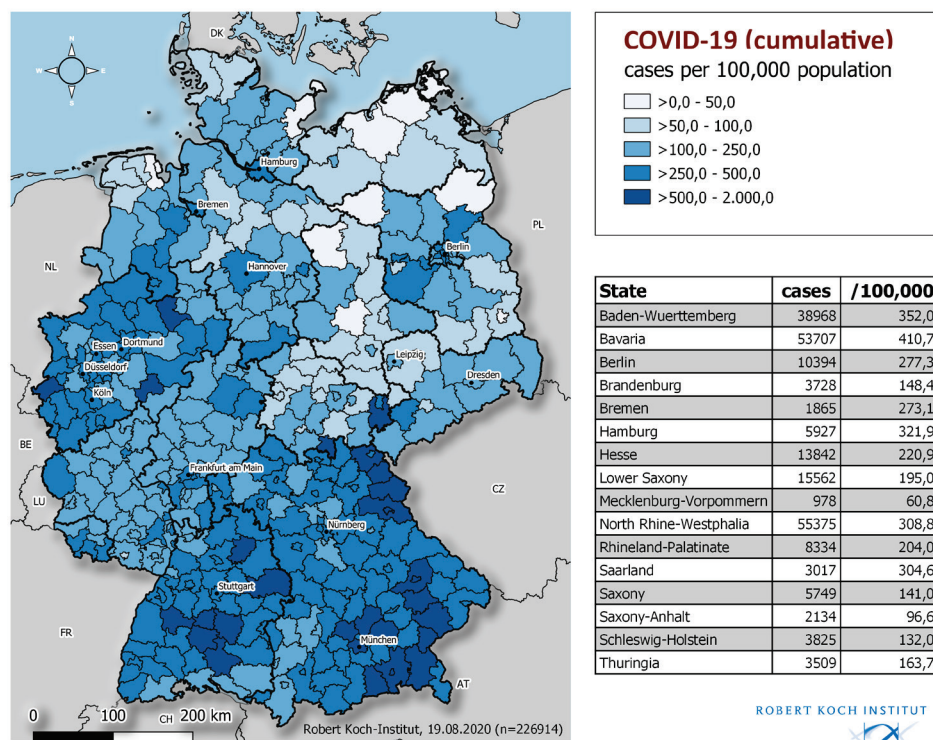


Figure 1: Number and cumulative incidence (per 100,000 population) of the 226,914 electronically reported COVID-19 cases in Germany by county and federal state (19/08/2020, 00:00 AM). Please see the COVID-19 dashboard (<https://corona.rki.de/>) for information on number of COVID-19 cases by district (local health authority).

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 (19/08/2020, 12:00 AM). The number of new cases covers positive cases, which have been sent 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	38,968	228	352	852	7.7	1,860	16.8
Bavaria	53,707	409	411	1,406	10.8	2,631	20.1
Berlin	10,394	75	277	476	12.7	224	6.0
Brandenburg	3,728	20	148	66	2.6	169	6.7
Bremen	1,865	14	273	46	6.7	56	8.2
Hamburg	5,927	26	322	137	7.4	264	14.3
Hesse	13,842	167	221	897	14.3	528	8.4
Mecklenburg-Western Pomerania	978	3	61	27	1.7	20	1.2
Lower Saxony	15,562	80	195	406	5.1	656	8.2
North Rhine-Westphalia	55,375	326	309	2,640	14.7	1,783	9.9
Rhineland-Palatinate	8,334	110	204	391	9.6	242	5.9
Saarland	3,017	9	305	62	6.3	174	17.6
Saxony	5,749	13	141	65	1.6	226	5.5
Saxony-Anhalt	2,134	8	97	46	2.1	64	2.9
Schleswig-Holstein	3,825	18	132	142	4.9	160	5.5
Thuringia	3,509	4	164	52	2.4	186	8.7
Total	226,914	1510	273	7,711	9.3	9,243	11.1

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 2 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 in 75,083 cases (33%), thus their date of reporting is provided.

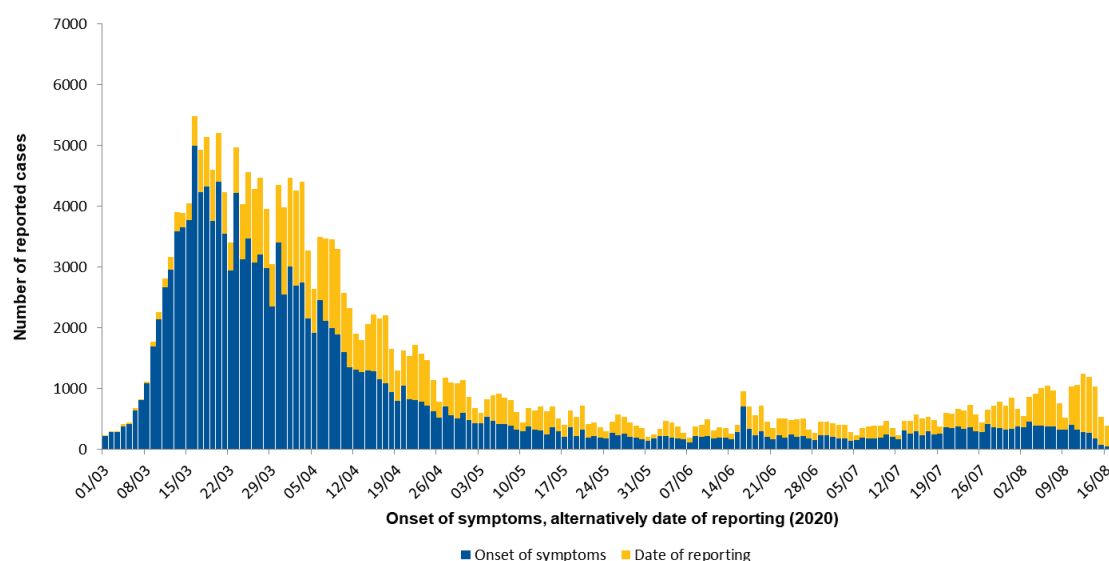


Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by the date of symptoms onset or –if unknown- alternatively by date of reporting since 01/03/2020 (19/08/2020, 12:00 AM).

Demographic distribution of cases

Of all notified cases, 51% are female and 49% are male. Among all notified cases for whom data on age and gender were reported, 7,516 were children under 10 years of age (3.3%), 13,713 children and teenagers aged 10 to 19 years (6.1%), 103,296 persons aged 20 to 49 years (46%), 64,560 persons aged 50 to 69 years (29%), 31,684 persons aged 70 to 89 years (14%) and 5,532 persons aged 90 years and older (2.4%). Age and/or gender were unknown in 613 notified cases. Cases had a mean age of 46 years (median age 47 years). The highest incidences are seen in persons aged 90 years and older (Figure 3).

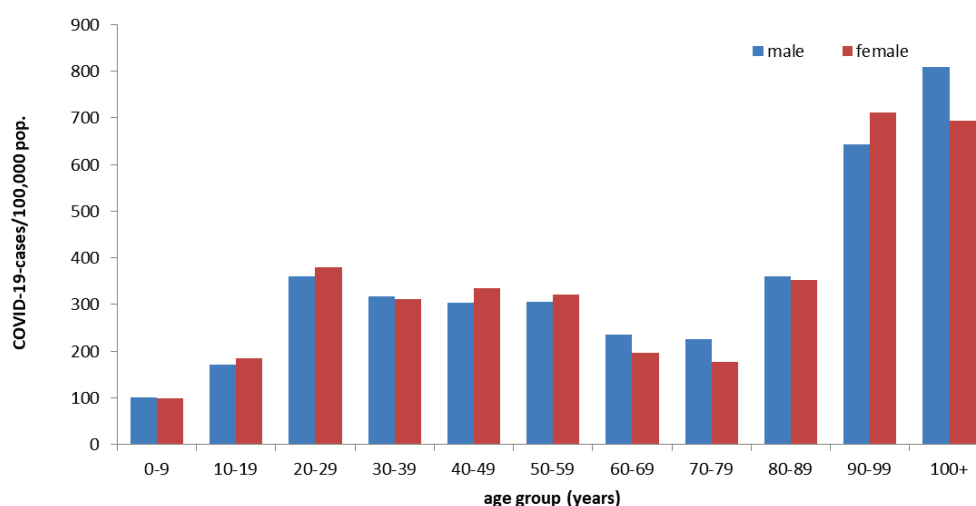


Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=226,295) for cases with information available (19/08/2020, 12:00 AM).

Clinical aspects

Information on symptoms is available for 190,136 (84%) of the notified cases. Commonly reported symptoms were cough (46%), fever (39%), rhinorrhoea (20%) and sore throat (19%). Pneumonia was

reported in 5,374 cases (3%). Since calendar week 17, cases are reported to the RKI as a distinct COVID-19 surveillance category. Since then, ageusia and anosmia can also be entered as symptoms. At least one of these two symptoms was reported in 6,917 of 45,828 cases (15%).

Hospitalisation was reported for 31,713 (16%) of 196,645 COVID-19 cases with information on hospitalisation status.

Approximately 203,900 people have recovered from their COVID-19 infection. Since the exact date of recovery is unknown in most cases, an algorithm was developed to estimate this number.

A total of 9,243 COVID-19-related deaths have been reported in Germany (4.1% of all confirmed cases). Of these, 5,120 (55%) are men and 4,119 (45%) are women (see Table 2), the gender is unknown in four cases. The mean age of COVID-19 cases reported to have died was 81 years (median: 82 years). Of all deaths, 7,903 (86%) were in people aged 70 years or older, but only 16% of all cases were in this age group. Thus far, three deaths among COVID-19 cases under 20 years of age have been reported to the RKI. Pre-existing medical conditions were reported for all three.

Table 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 9,239 of notified deaths; 19/08/2020, 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	90-99	100+
Male		2	7	17	57	242	658	1,402	2,146	583	6
Female	1		3	6	22	88	235	678	1,940	1,101	45
Total	1	2	10	23	79	330	893	2,080	4,086	1,684	51

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 25% of cases, the proportion 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 3: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases electronically reported to RKI (225.565* cases, no data available for 56.999 cases; 19/08/2020, 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	3,787	2,702	668	3,000
	Occupation in facility	14,766	670	23	14,500
§ 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*	5,342	97	1	4,500
	Occupation in facility	3,176	159	7	3,000
§ 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	18,967	4,230	3,653	15,100
	Occupation in facility	10,449	451	39	10,300
§ 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	5,363	230	5	5,200
Neither cared for, accommodated in nor working in a facility		106,716	17,301	3,564	97,100

*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.
IfSG: Protection Against Infection Law

The number of COVID-19 cases was highest among persons cared for or employed in medical and other care facilities according to §23 and §36 IfSG (Table 3). The number of deaths was particularly high among persons cared for in these facilities.

Among the cases reported as working in medical facilities, 73% were female and 27% male. Their median age was 41 years. The high number of cases among people cared for or working in various care facilities (Section 36 IfSG) is consistent with numerous reported outbreaks, especially in nursing homes. The number of cases among persons working in the food sector (§42 IfSG) is largely due to outbreaks in meat processing plants.

Outbreaks

Twelve districts reported an increased incidence of ≥ 25 cases in 7 days/100.000 inhabitants. The federal states mainly affected are North Rhine-Westphalia, Hesse and Bavaria. The increased incidence in the affected districts is mainly due to people returning home from vacations abroad.

The high incidence in the district of Dingolfing-Landau, caused by an outbreak on an agricultural farm with an attached canning factory is decreasing.

Further COVID-19 outbreaks continue to be reported in nursing homes and hospitals, facilities for asylum seekers and refugees, community facilities, meat-processing plants and other occupational settings as well as in the context of family events and religious gatherings.

Estimation of the reproduction number (R)

The presented case numbers do not fully reflect the temporal progression of incident COVID-19-cases, since the time intervals between actual onset of illness and diagnosis, reporting, as well as data transmission to the RKI vary greatly. Therefore, a nowcasting approach is applied to model the true temporal progression of COVID-19 cases according to illness onset. Figure 4 shows the result of this analysis.

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 and not directly extracted from the notification system.

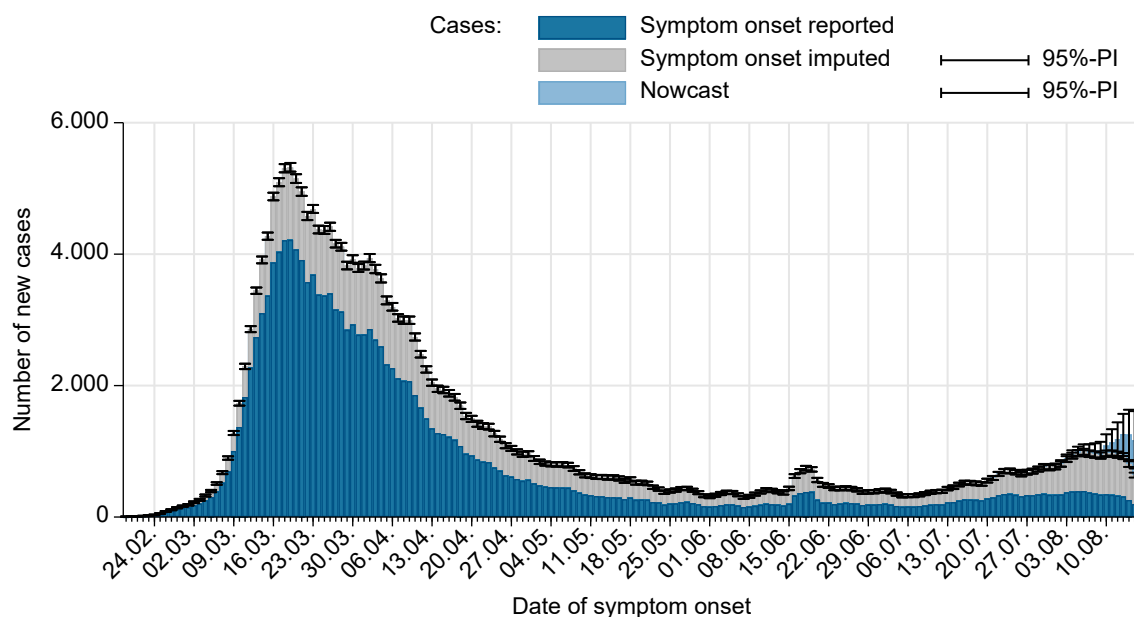


Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 19/08/2020, 12 AM, taking into account cases up to 15/08/2020).

A sensitive 4-day- R -value can be estimated by using a 4-day moving average of the number of new cases estimated by nowcasting. This 4-day value reflects the infection situation about one to two weeks ago. This value reacts sensitively to short-term changes in case numbers, such as those caused by individual outbreaks. Furthermore, outbreak dynamics may be influenced widespread testing performed among affected persons, leading to the rapid detection of many additional COVID-19 cases. This can lead to relatively large fluctuations in the estimated R -value, especially if the total number of new cases is small.

The current estimate of the 4-day R -value is 1.03 (95%-prediction interval: 0.84 – 1.27) and is based on electronically notified cases as of 19/08/2020, 12:00 AM.

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

Similarly, the 7-day R-value is estimated by using a moving 7-day average of the nowcasting curve. This compensates for fluctuations more effectively, as this value represents a slightly later course of infection of about one to a little over two weeks ago. The 7-day R-value is estimated at **1.08** (95% prediction interval: **0.98 – 1.23**) and is based on electronically notified cases as of 19/08/2020, 12:00 AM.

The reported R values has been around 1 or slightly above since mid-July 2020. According to current observations, this seems to be associated to a great extent with an increasing number of cases among travel returnees, a larger number of smaller outbreaks and the overall case numbers in Germany, which have increased steadily in recent weeks since the relaxation of disease control measures.

See also RKI's statement on high case numbers of 24/07/2020

https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Gestiegene_Fallzahlen.html

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 methodological explanation of the more stable 7day R-value is also available there. More general information and sample calculations for both R-values can also be found in our FAQs (<http://www.rki.de/covid-19-faq>).

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/#/intensivregister>)

As of 19/08/2020, a total of **1,284** hospitals or departments reported to the DIVI registry. Overall, **30,625** intensive care beds were registered, of which **21,888** (71%) are occupied, and **8,737** (28%) 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 (19/08/2020, 12:15 PM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	228		1
- of these: mechanically ventilated	142	62%	7
Discharged from ICU	16,176		-8
- of these: deaths	3,934	24%	-7

*The interpretation of these numbers must take into account the 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

In order 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 33/2020, 10,197,366 laboratory tests have been recorded to date, 264,990 of which have tested positive for SARS-CoV-2.

Up to and including week 33, 250 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 (see Table 5).

Table 5: Number of SARS-CoV-2-laboratory tests in Germany (as of 18/08/2020)

weeks* 2020	Number tests	Tested positiv	Proportion positive (%)	Number of reporting laboratories
Up until week 11	124,716	3,892	3.12	90
week 11	127,457	7,582	5.95	114
week 12	348,619	23,820	6.83	152
week 13	361,515	31,414	8.69	151
week 14	408,348	36,885	9.03	154
week 15	380,197	30,791	8.10	164
week 16	331,902	22,082	6.65	168
week 17	363,890	18,083	4.97	178
week 18	326,788	12,608	3.86	175
week 19	403,875	10,755	2.66	182
week 20	432,666	7,233	1.67	183
week 21	353,467	5,218	1.48	179
week 22	405,269	4,310	1.06	178
week 23	340,986	3,208	0.94	176
week 24	326,645	2,816	0.86	172
week 25	387,484	5,309	1.37	175
week 26	466,459	3,670	0.79	179
week 27	504,082	3,080	0.61	149
week 28	510,103	2,990	0.59	178
week 29	538,229	3,483	0.65	176
week 30	570,746	4,464	0.78	180
week 31	578,099	5,634	0.97	165
week 32	730,300	7,256	0.99	165
week 33	875,524	8,407	0.96	181
Total	10,197,366	264,990		

Testing of travellers at German points of entry

At several points of entry (airports, train stations, motorway service stations), SARS-CoV-2 test centres have been established. Some of the laboratories (covering Hannover, Hamburg, Frankfurt, Berlin-Tegel, Berlin-Schönefeld, Leipzig/Halle airports; Munich, Nuremberg train stations; Passau, Traunstein, Rosenheim motorway service stations) have voluntarily provided service statistics for the period 09.08 – 15.08.2020 to RKI. In total, 79,392 tests were reported from these entry points, of which 1,236 were positive (1.56%). At the airports, out of 43,810 persons tested, 478 had a positive result (1.09%); at the motorway stations, out of 32,011 persons tested, 709 had a positive result (2.21%); at the two train stations, out of 3,571 persons tested, 49 had a positive result (1.37%). It is not possible to say to which extent these 79,392 tests are included in those reported in Table 5.

Risk Assessment by the RKI

General assessment

At the global and the national level, the situation is very dynamic and must be taken seriously. The number of cases continues to increase worldwide. The number of newly reported cases declined from mid-March until early July. Since then, case numbers have been steadily increasing with a clear acceleration in recent weeks. At the same time, the number of districts that have not reported any cases in the last 7 days is decreasing. There are larger and smaller outbreaks nationwide, especially in connection with celebrations in the circle of family and friends and at group events. Travel returnees, especially in the younger age groups, also contribute to the increase in the number of cases. Vaccines and anti-viral therapeutics are currently not available. The RKI currently assesses the risk to the health of the German population overall as high and as very high for risk groups. This assessment may change at short notice based on new insights.

Infection risk

SARS-CoV-2 can be transmitted easily from person to person. The risk of infection depends heavily on the regional spread, living conditions and also on individual behaviour (physical distancing, hygiene measures and community masks). Here, contacts in risk situations (such as long face-to-face contact) play a special role. Aerosol emission increases sharply when speaking loudly, singing or laughing. In indoor rooms, this significantly increases the risk of transmission, even if a distance of more than 1.5 m is maintained. If the minimum distance of 1.5 m without covering the mouth and nose is not maintained, e.g. when groups of people sit at a table or in large gatherings, there is also an increased risk of transmission outdoors.

Disease severity

In most cases, the disease is mild. The probability of progression towards serious disease increases with increasing age and underlying illnesses. Individual long-term consequences cannot be estimated yet. The individual risk cannot be derived from epidemiological/statistical data. Thus, even without known previous illnesses and in young people, the course of the disease can be severe or even life-threatening. Long-term consequences, even after slight progressions, cannot yet be assessed.

Burden on health system

The burden on the health care system depends largely on the geographical distribution of cases, health care capacity and initiation of containment measures (isolation, quarantine, physical distancing etc.). In large parts of Germany it is currently low, but it can rapidly increase locally and affect the public health system in particular as well as medical care facilities.

Measures taken in Germany

- The ministry of health has published a record of all measures implemented in Germany since 27/01/2020
<https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html> (in German)
- Information from the Ministry of Health for travelers 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/DE/Content/InfAZ/N/Neuartiges_Coronavirus/WarnApp/Warn_App.html
- Regulations for persons entering Germany in connection with the novel coronavirus SARS-CoV-2 (07.08.2020) 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: <https://www.bundesregierung.de/breg-de/themen/coronavirus/corona-bundeslaender-1745198> (in German)
- (Non-medical) face masks must be worn on public transport and in shops in all federal states.
- Data on current disease activity can be found in the daily situation reports and on the RKI dashboard: <https://corona.rki.de/>
- A distance of 1.5 metres to other individuals must be maintained in public spaces:
<https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248> (in German)