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

15/07/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
199,726	**9,071**	**4.5%**	**ca. 186,000****
(+ 351*)	(+ 3*)		

*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 15/07/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was 2.7 cases per 100,000 inhabitants. A total of 112 districts transmitted zero cases.
- In total, 199,726 laboratory-confirmed COVID-19 cases and 9,071 deaths due to COVID-19 have been electronically reported to the RKI in Germany.
- Currently, COVID-19-related outbreaks occur in various settings, including meat-processing plants, facilities for asylum-seekers and refugees, nursing homes and hospitals as well as in context of families or religious events.

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

Epidemiological Situation in Germany

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 199,726 (+351) laboratory-confirmed cases of coronavirus disease 2019 (COVID-19) have been electronically reported to and validated by the RKI (see Table 1). A total of 112 districts reported no cases in the past 7 days. Information on laboratory-confirmed cases is also available on the RKI website at https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Fallzahlen.html and https://corona.rki.de.

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 (15/07/2020, 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	36,162	51	327	223	2.0	1,838	16.6
Bavaria	49,427	77	378	437	3.3	2,613	20.0
Berlin	8,674	18	231	151	4.0	220	5.9
Brandenburg	3,465	3	138	17	0.7	167	6.6
Bremen	1,691	0	248	10	1.5	55	8.1
Hamburg	5,231	0	284	7	0.4	261	14.2
Hesse	11,217	11	179	201	3.2	514	8.2
Mecklenburg-Western Pomerania	804	0	50	0	0.0	20	1.2
Lower Saxony	13,848	25	173	84	1.1	642	8.0
North Rhine-Westphalia	45,233	118	252	889	5.0	1,708	9.5
Rhineland-Palatinate	7,222	26	177	118	2.9	236	5.8
Saarland	2,823	4	285	15	1.5	174	17.6
Saxony	5,478	2	134	12	0.3	225	5.5
Saxony-Anhalt	1,921	2	87	21	1.0	62	2.8
Schleswig-Holstein	3,229	8	111	35	1.2	154	5.3
Thuringia	3,301	6	154	17	0.8	182	8.5
Total	**199,726**	**351**	**240**	**2.237**	**2.7**	**9,071**	**10.9**

As part of quality checks and data cleansing by the health authorities and regional offices, corrections to cases already transmitted (e.g. detection of duplicate reports) can occiasionally lead to negative values for the number of new cases.
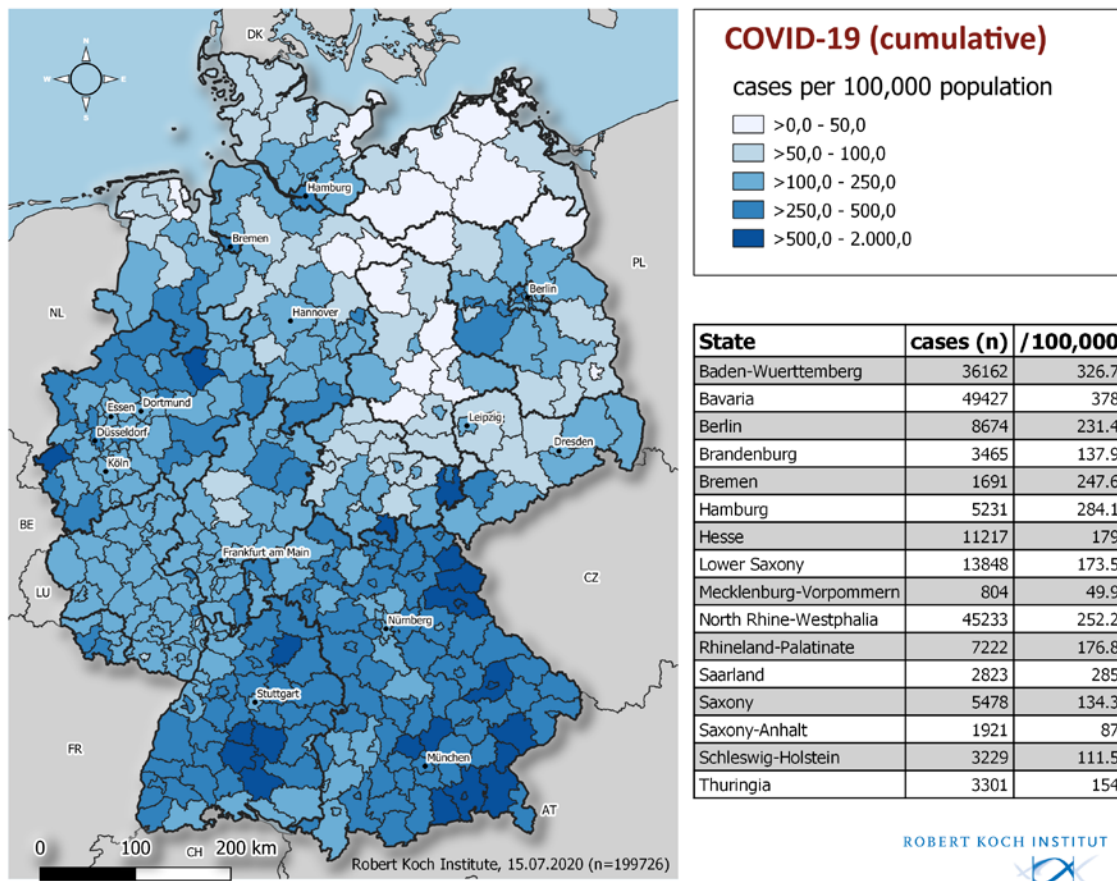
Note: The report is a snapshot and is continuously updated.

COVID-19 (cumulative)

cases per 100,000 population

- >0,0 - 50,0
- >50,0 - 100,0
- >100,0 - 250,0
- >250,0 - 500,0
- >500,0 - 2.000,0

State	cases (n)	/100,000
Baden-Wuerttemberg	36162	326.7
Bavaria	49427	378
Berlin	8674	231.4
Brandenburg	3465	137.9
Bremen	1691	247.6
Hamburg	5231	284.1
Hesse	11217	179
Lower Saxony	13848	173.5
Mecklenburg-Vorpommern	804	49.9
North Rhine-Westphalia	45233	252.2
Rhineland-Palatinate	7222	176.8
Saarland	2823	285
Saxony	5478	134.3
Saxony-Anhalt	1921	87
Schleswig-Holstein	3229	111.5
Thuringia	3301	154

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Figure 1: Number and cumulative incidence (per 100,000 population) of the 199,726 electronically reported COVID-19 cases in Germany by county and federal state (15/07/2020, 12:00 AM). Please see the COVID-19 dashboard (https://corona.rki.de/) for information on number of COVID-19 cases by county (local health authority).

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 60.300 cases (30%), thus their date of reporting is provided in Figure 2.
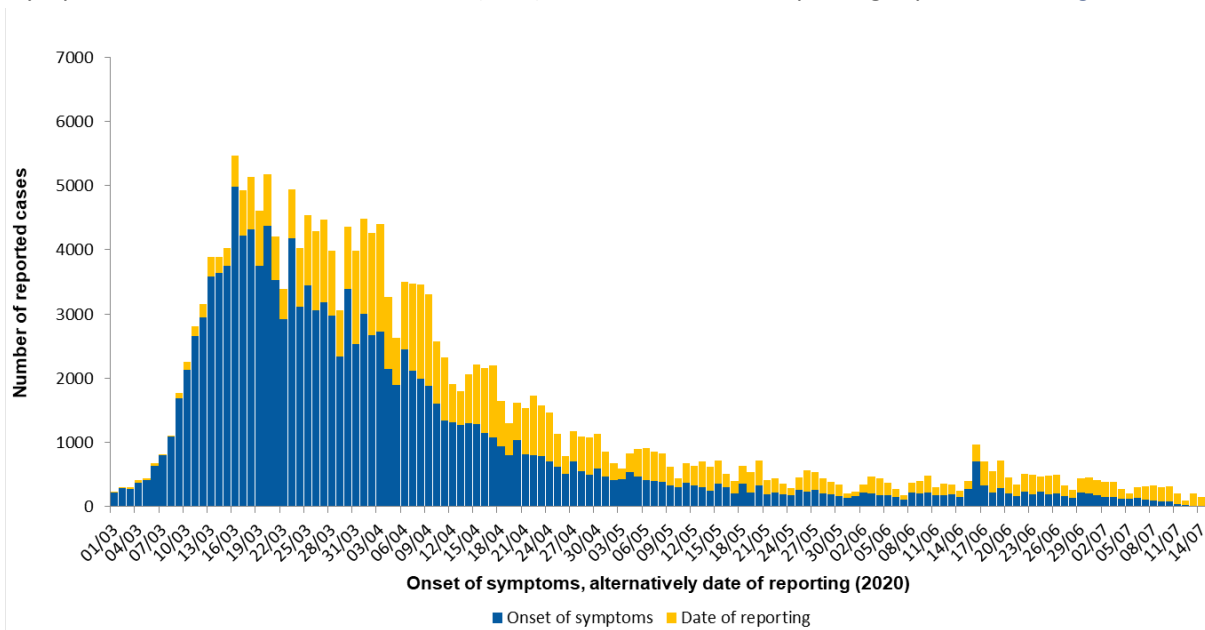

Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or -if unknown- alternatively by date of reporting from 01/03/2020 (15/07/2020, 12:00 AM).

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Demographic distribution of cases

Of all reported cases, 52% are female and 48% are male. Among all those notified cases, for which data on gender was reported, 5,350 were children under 10 years of age (2.7%), 9,873 children and teenagers aged 10 to 19 years (4.9%), 88.117 persons aged 20 to 49 years (44%), 60,104 persons aged 50 to 69 years (30%), 30,461 persons aged 70 to 89 years (15%) and 5,386 persons aged 90 years and older (2.7%). The age and/or gender is unknown in 435 notified cases. The mean age of cases is 48 years (median age 48 years). The highest incidences are seen in persons aged 90 years and older (Figure 3).
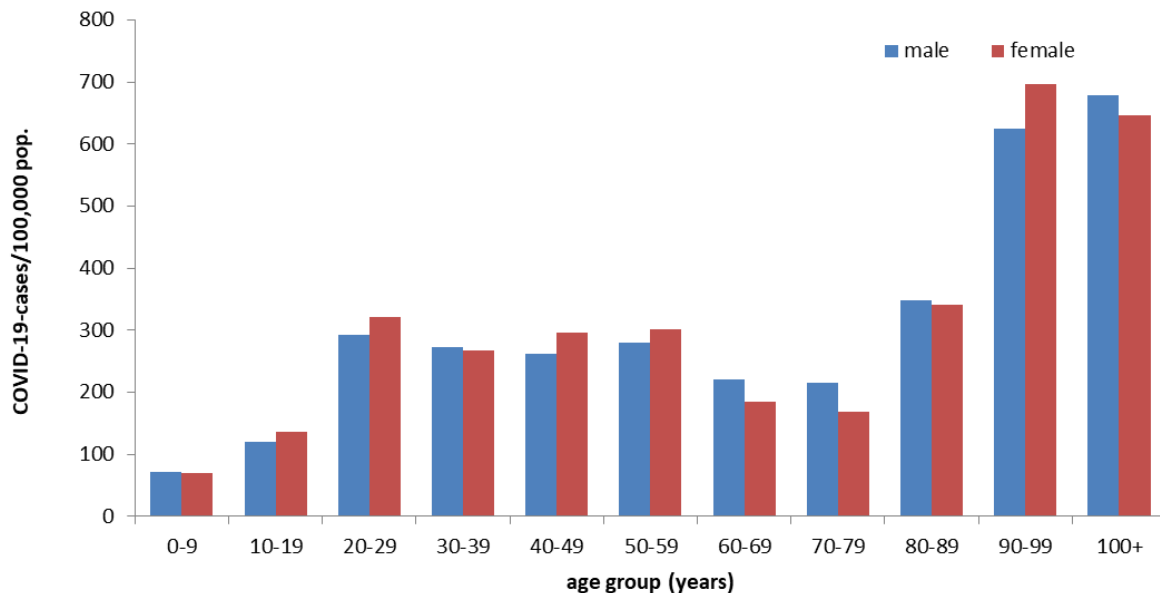

Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=199.285) for cases with information available (15/07/2020,12:00 AM).

Clinical aspects

Information on symptoms is available for 170,520 (85%) of the notified cases. Common symptoms are cough (48%), fever (40%) and rhinorrhoea (21%). Pneumonia was reported in 5,141 cases (3.0%). 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 4,042 of 27,015 cases (15%).

Hospitalisation was reported for 29,821 (17%) of 174,221 COVID-19 cases with information on hospitalisation status.

Approximately 186,000 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.

In total, 9,071 COVID-19-related deaths have been reported in Germany (4.5% of all confirmed cases). Of these, 5,011 (55%) are men and 4,055 (45%) are women (see Table 2), the gender was unknown in five cases). The median age was 82 years. Of all deaths, 7,763 (86%) were in people aged 70 years or older, but only 18% of all cases were in this age group. So 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.

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Table 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 9,066 of notified deaths; 15/07/2020, 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	6	17	54	236	642	1,374	2,106	567	7
Female	1		3	6	22	85	232	670	1,906	1,086	44
Total	1	2	9	23	76	321	874	2,044	4,012	1,653	51

Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Act, 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 (198,572* cases, no data available for 49,420 cases; 15/07/2020, 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	3,488	2,508	646	2,800
	Occupation in facility	14,044	642	20	13,900
§ 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*	3,571	73	1	3,300
	Occupation in facility	2809	148	7	2,800
§ 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	18,250	4,123	3,582	14,400
	Occupation in facility	10,041	423	43	9,900
§ 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	4,763	201	5	4,600
Neither cared for, accommodated in nor working in a facility		92,186	16,159	3,462	86,800

*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

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The number of COVID-19 cases was highest among persons cared for or employed in medical and other care facilites 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 low number of cases among persons who attend or work in facilities providing child care or education (Section 33 IfSG) reflects the low incidence in children observed thus far. The increase in the number of cases among persons working in the food sector (§42) is largely due to outbreaks in meat processing plants.

Countries of Exposure

Borders have begun to open since reporting week 25, initially in Europe. Since then, among the countries reported as the probable place of exposure, the proportion of countries other than Germany has increased. This proportion peaked at 58% (2,970 cases) in reporting week 11, after which it rapidly decreased in association with the implemented travel restrictions to 0.6% (19 cases) in week 20. As of week 21 there is a slight increase, which is now at 16% (222 cases) in week 28.

Table 4 lists the countries most frequently reported as the probable place of infection in weeks 25 to 28 (countries mentioned in at least 5 cases) from total 8.982 numbers mentioned

Tabelle 4: Countries of exposures reported for COVID-19 cases notified in weeks 25 to 28, 2020 (15/07/2020, 0:00 Uhr).

Country of exposure	Numbers mentioned
Deutschland	8,434
Serbien	190
Kosovo	55
Bosnien und Herzegowina	33
Türkei	22
Rumänien	22
Mexiko	14
Österreich	14
Kroatien	13
Bulgarien	11
Mazedonien	11
Vereinigte Staaten	10
Schweden	9
Lettland	9
Afghanistan	8
Iran	8
Polen	8
Pakistan	7
Kasachstan	6
Niederlande	6
Westafrika	6
Moldau	5
Portugal	5
Ukraine	5
Rest	71
Gesamt	**8,982**

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Outbreaks

A high 7-day incidence with more than 25 cases per 100,000 inhabitants was observed in one district: the district of Bad Toelz-Wolfrathshausen (Bavaria).

In this district a higher incidence of of cases was observed in two refugee facilities. Appropriate containment measures were implemented.

The 7-day incidence in thedistrict of Guetersloh that had been caused by an outbreak in a meat processing plant had been steadily decreasing and has now sunk below 25 cases per 100,000 inhabitants.

A few COVID-19 outbreaks continue to be reported in nursing homes and hospitals, refugee facilities as well as religious communities.

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 44 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.
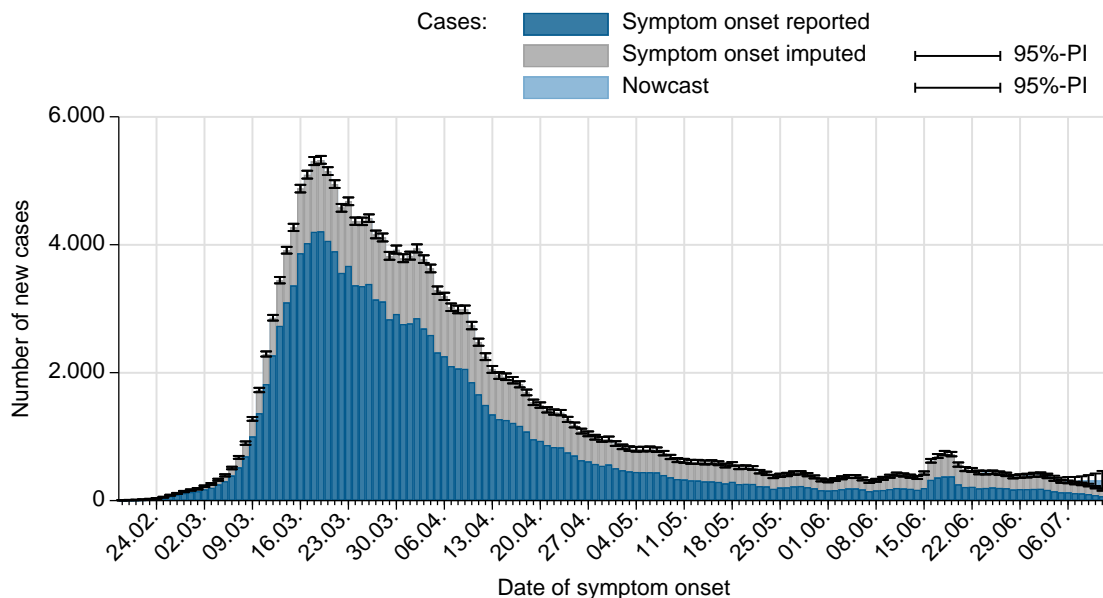

Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 15/07/2020, 12 AM, taking into account cases up to 11/07/2020).

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 therapid detection of many additional COVID-19 cases. This can lead to

relatively large fluctuations in the estimated R-value, especially if – as is currently the case in Germany - the total number of new cases is small.

The current estimate of the 4-day R-value is 1.02 (95%-prediction interval: 0.81 – 1.24) and is based on electronically notified cases as of 15/07/2020, 12:00 AM.

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 0.95 (95% prediction interval: 0.85 – 1.06) and is based on electronically notified cases as of 15/07/2020, 12:00 AM.

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

A registry of the German Interdisciplinary Association for Intensive and Emergency Medicine (DIVI), the RKI and the German Hospital Federation (DKG) was established to document intensive care capacity as well as the number of COVID-19 cases treated in participating hospitals (https://www.intensivregister.de/#/intensivregister). The DIVI intensive care register documents the number of available intensive care beds in the reporting hospitals on a daily basis. Since 16/04/2020, all hospitals with intensive care beds are required to report.

As of 15/07/2020, a total of 1,273 hospitals or departments reported to the DIVI registry. Overall, 32,520 intensive care beds were registered, of which 21,489 (66%) are occupied, and 11,031 beds (34%) are currently available. The number of COVID-19 cases treated in participating hospitals is shown in 5.

Table 5: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (15/07/2020, 12:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	248		-18
- of these: mechanically ventilated	120	48%	-5
Discharged from ICU	15,079		+44
- of these: deaths	3,749	25%	+5

*The interpretation of these numbers must take into account the slightly changing number of reporting hospitals (with large differences in their number of beds) from day to day. This can explain the observed decrease in the cumulative number of discharged

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 are transmitted 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

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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 28/2020, 6,884,614 laboratory tests have been recorded to date, 235,274 of which have tested positive for SARS-CoV-2 (see 6).

Table 6: Number of SARS-CoV-2-laboratory tests in Germany (as of 15/07/2020)

weeks* 2020	Number tests	Tested positiv	Proportion positive (%)	Number of reporting laboratories
Up until week 11	124,716	3,892	3.1	90
week 11	127,457	7,582	5.9	114
week 12	348,619	23,820	6.8	152
week 13	361,515	31,414	8.7	151
week 14	408,348	36,885	9.0	154
week 15	380,197	30,791	8.1	164
week 16	331,902	22,082	6.7	168
week 17	363,890	18,083	5.0	178
week 18	326,788	12,608	3.9	175
week 19	403,875	10,755	2.7	182
week 20	432,666	7,233	1.7	183
week 21	353,467	5,218	1.5	179
week 22	405,269	4,310	1.1	178
week 23	340,986	3,208	0.9	176
week 24	325,430	2,713	0.8	170
week 25	384,142	5,135	1.3	172
week 26	462,641	3,601	0.8	176
week 27	499,486	3,011	0.6	146
week 28	503,220	2,933	0.6	171
Summe	**6,884,614**	**235,274**		

Up to and including week 27, 228 laboratories have registered for the RKI test laboratory survey or in one of the other transmitting networks and communicate mainly on a weekly basis.

Since laboratories can register the tests of the previous calendar weeks at a later date, it is possible that the numbers determined will increase subsequently. 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 patients.

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 newly reported cases has been declining since mid of March. Currently, many districts are transmitting very few or no cases to the RKI. 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

The risk of infection depends heavily on the regional spread, living conditions and also on individual behaviour.

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Disease severity

In most cases, the disease is mild. The probability of progression towards serious disease increases with increasing age and underlying illnesses.

Burden on health system

The burden on the health care system depends on the geographical distribution of cases, health care capacity and initiation of containment measures (isolation, quarantine, physical distancing etc.). The burden is currently low in many regions, but may be high in some locations.

Measures taken by Germany

- 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 (15.06.2020) 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 indivduals must be maintained in public spaces:
  https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundeskanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248 *(in German)*

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