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

24/06/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
191,449 (+ 587*)	**8,914** (+ 19*)	**4.7%**	**ca. 176,300****

**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 24/06/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was 4.6 cases per 100,000 inhabitants. A total of 136 districts transmitted zero cases.
- In total, 191,449 laboratory-confirmed COVID-19 cases and 8,914 deaths due to COVID-19 have been electronically reported to the RKI in Germany.
- COVID-19 outbreaks continue to be reported in nursing homes and hospitals.
- Outbreaks of COVID-19 have been reported in several federal states (including in institutions for asylum seekers and refugees, in meat processing plants and logistics companies, among seasonal harvest workers and in connection with religious events and family gatherings).

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

Epidemiological Situation in Germany

Geographical distribution of cases

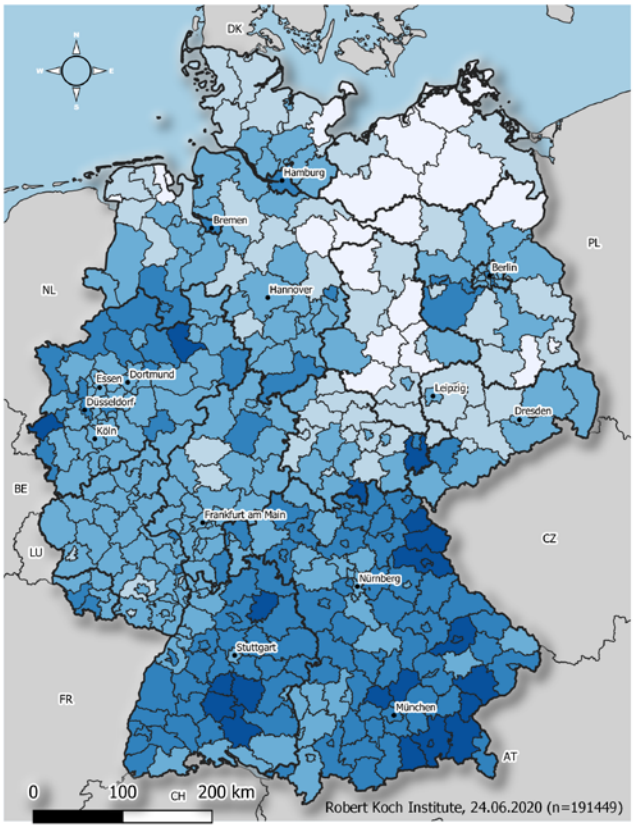
Epidemiological analyses are based on validated cases notified electronically to the RKI in line with the Protection Against Infection Law (Data closure: 12:00 AM daily). Since January 2020, a total of 191,449 (+587) laboratory-confirmed cases of coronavirus disease 2019 (COVID-19) have been electronically reported to and validated by the RKI (see Table 1). A total of 136 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 (24/06/2020, 12:00 AM).

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	35,409	44	320	175	1.6	1,826	16.5
Bavaria	47,995	101	367	251	1.9	2,578	19.7
Berlin *	7,975	59	213	506	13.5	211	5.6
Brandenburg	3,413	6	136	48	1.9	164	6.5
Bremen	1,653	-1	242	46	6.7	49	7.2
Hamburg	5,175	5	281	28	1.5	259	14.1
Hesse	10,645	32	170	235	3.8	503	8.0
Mecklenburg-Western Pomerania	794	2	49	7	0.4	20	1.2
Lower Saxony	13,327	15	167	293	3.7	622	7.8
North Rhine-Westphalia *	41,678	260	232	2,018	11.3	1,668	9.3
Rhineland-Palatinate	6,924	5	170	57	1.4	235	5.8
Saarland	2,801	23	283	7	0.7	169	17.1
Saxony	5,436	28	133	77	1.9	222	5.4
Saxony-Anhalt	1,856	5	84	68	3.1	58	2.6
Schleswig-Holstein	3,137	1	108	15	0.5	152	5.2
Thuringia	3,231	2	151	31	1.4	178	8.3
Total	**191,449**	**587**	**230**	**3,862**	**4.6**	**8,914**	**10.7**

* Outbreaks in North Rhine-Westphalia and Berlin are primarily responsible for the increasing case numbers when compared to the numbers of the previous day.

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	35409	319.9
Bavaria	47995	367
Berlin	7975	212.8
Brandenburg	3413	135.9
Bremen	1653	242
Hamburg	5175	281.1
Hesse	10645	169.9
Lower Saxony	13327	167
Mecklenburg-Vorpommern	794	49.3
North Rhine-Westphalia	41678	232.4
Rhineland-Palatinate	6924	169.5
Saarland	2801	282.8
Saxony	5436	133.3
Saxony-Anhalt	1856	84
Schleswig-Holstein	3137	108.3
Thuringia	3231	150.8

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Figure 1: Number and cumulative incidence (per 100,000 population) of the 191,449 electronically reported COVID-19 cases in Germany by county and federal state (24/06/2020, 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. With regard to all cases reported from 01.03.2020 onwards, the onset of symptoms is unknown in 56,805 cases (30%). When the the onset of symptoms is unknown, the date of reporting is provided in Figure 2.

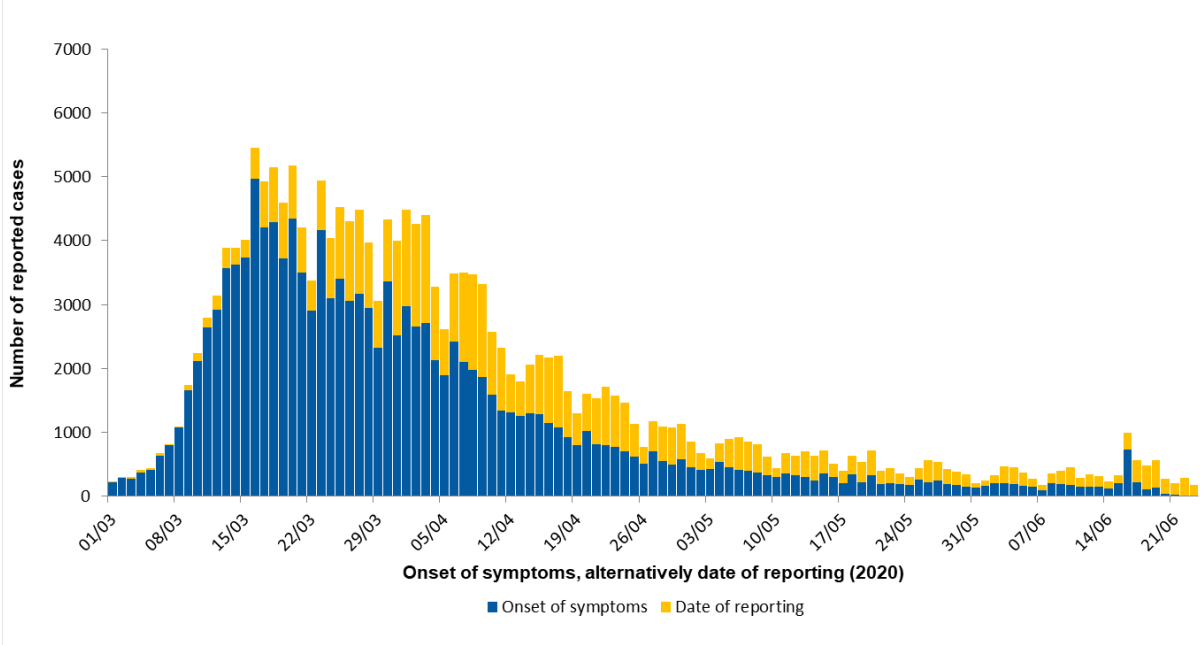

Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or alternatively by date of reporting from 01/03/2020 (24/06/2020, 12:00 AM).

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

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, 4,568 were children under 10 years of age (2.4%), 9,096 children and teenagers aged 10 to 19 years (4.8%), 83,605 persons aged 20 to 49 years (44%), 58,477 persons aged 50 to 69 years (31%), 29,963 persons aged 70 to 89 years (16%) and 5,325 persons aged 90 years and older (2.8%). The age and/or gender is unknown in 415 notified cases. The mean age of cases is 49 years (median age 49 years). The highest incidences are seen in persons aged 90 years and older (Figure 3).

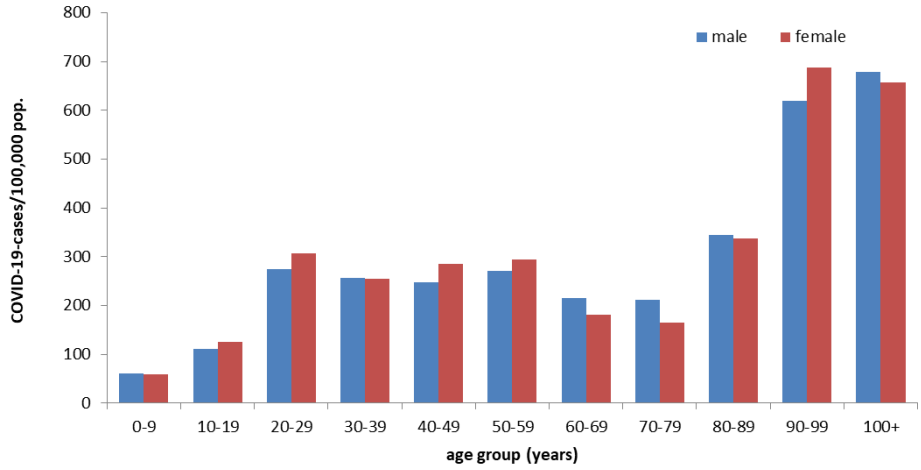

Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=190,028) for cases with information available (24/06/2020,12:00 AM).

Clinical aspects

Information on symptoms is available for 163,813 (86%) of the notified cases. Common symptoms are cough (49%), fever (41%) and rhinorrhoea (21%). Pneumonia was reported in 4,975 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 3,031 of 20,872 cases (15%).

Hospitalisation was reported for 28,943 (18%) of 166,249 COVID-19 cases with information on hospitalisation status.

Approximately 176,300 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.

Table 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 8,909 of notified deaths; 24/06/2020, 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	49	228	626	1,346	2,086	555	6
Female	1		3	6	20	84	222	657	1,868	1,063	45
Total	**1**	**2**	**9**	**23**	**69**	**312**	**848**	**2,003**	**3,954**	**1,618**	**51**

In total, 8,914 COVID-19-related deaths have been reported in Germany (4.7% of all confirmed cases). Of these, 4,932 (55%) are men and 3,977 (45%) are women (see Table 2), the gender was unknown in five cases). The median age was 82 years. Of all deaths, 7,644 (86%) were in people aged 70 years or older, but only 19% 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.

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

Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Law, 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 (190,392* cases, no data available for 48,491 cases; 24/06/2020, 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	3,303	2,363	619	2,600
	Occupation in facility	13,717	633	20	13,600
§ 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*	3,004	65	1	2,600
	Occupation in facility	2,682	135	8	2,600
§ 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	17,643	4,026	3,504	13,800
	Occupation in facility	9,818	418	46	9,700
§ 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	3,970	186	4	2,700
Neither cared for, accommodated in nor working in a facility		87,764	15,646	3,397	82,500

*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

So far, 13,717 cases with a SARS-CoV-2 infection have been notified among staff working in medical facilities as defined by Section 23 IfSG. Among the cases reported as working in medical facilities, 73% were female and 27% male. The median age was 41 years, 20 persons died.

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 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 increase in the number of cases among persons working in the food sector (§42) is largely due to outbreaks in meat processing plants.

Outbreaks

A high 7-day incidence with more than 25 cases per 100,000 inhabitants was observed in six districts, primarily due to localised outbreaks: The districts of Guetersloh and the neighbouring districts of Warendorf and Hamm (all North Rhine-Westphalia), the district of Goettingen (Lower Saxony), and the city district Berlin-Friedrichshain (city district of Berlin).

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

The increase in the 7-day incidence in the district Guetersloh is due to an outbreak in a meat processing plant. More than one thousand employees tested positive for SARS-CoV-2. The affected plant was temporarily closed at short notice and all employees are being quarantined as well as their household members. In addition, all schools and day-care centres in the district have been closed since 18th of June until the end of the summer holidays (11th of August 2020s). On June 23, 2020, the state of North Rhine-Westphalia officially activated the second stage of a lockdown for the district of Guetersloh until June 30, 2020. The 7-day high incidence in Warendorf and Hamm is linked to the outbreak in Guetersloh. Employees of the meat processing company are residents of neighbouring districts. In the affected region, testing for coronavirus is being significantly expanded. Nursing facilities, hospitals, employees in the food retail sector, kiosk staff and residents of central shared accommodation will be tested in Gütersloh and Warendorf. The population can have a test performed free of charge. There have also been and still are outbreaks in meat processing plants in other federal states, some of which have led to production closures.

A large COVID-19 outbreak occurred in the district of Goettingen, in the context of highly crowded housing conditions. All inhabitants of one large apartment complex have been quarantined, control- and support measures are being carried out along with extensive testing. Additionally, an outbreak in a refugee facility is reported, affecting more than 20 people.

In Neukölln, a district of Berlin, an outbreak is linked to members of a religious community. So far, more than one hundred cases can be linked to this outbreak. The infected persons live in predominantly cramped conditions, the entire block of flats has been quarantined.

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.

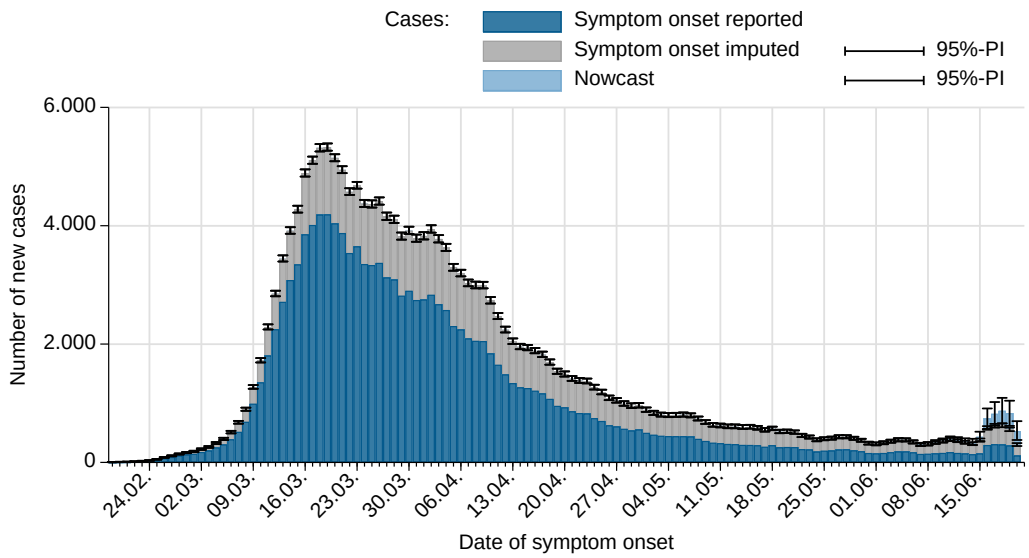

Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 24/06/2020, 12 AM, taking into account cases up to 20/06/2020).

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

The sensitive R-value reported 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. This can lead to relatively large fluctuations, especially if the total number of new cases is small. The current estimate of the 4-day R-value is 0,72 (95%-prediction interval: 0,56 – 0,91) and is based on electronically notified cases as of 24/06/2020, 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 1.17 (95% predictation interval: 1.08 – 1.25) and is based on electronically notified cases as of 24/06/2020, 12:00 AM. In light of the still low daily case numbers, both R-values should be interpreted with caution and in their course over several days.

The estimated reproduction numbers (R-value and 7-day R-value) have decreased to a value of 1 or below. The strongly increased values in the past few days are related to local accumulations, which are described in the section "Outbreaks", with the outbreak in North Rhine-Westphalia playing a particularly important role. The dynamics of the various outbreak events are also influenced in part by serial tests carried out in the scope of the detected outbreaks, which can promptly lead to the detection of further infected persons. For this reason, the reproduction figures may continue to fluctuate strongly. Since the case numbers in Germany are at a low level overall, these local outbreaks have a relatively strong influence on the value of the reproduction number.

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 24/06/2020, a total of 1,261 hospitals or departments reported to the DIVI registry. Overall, 27,154 intensive care beds were registered, of which 17,718 (65%) are occupied, and 9.436 beds (35%) 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 (24/06/202024/06/2020, 14:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	331		-6
- of these: mechanically ventilated	182	55%	-12
Discharged from ICU	14,270		-39
- of these: deaths	3,609	25%	4

*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 patients and deaths on some days compared to the previous day.

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 Antibiotic Resistance Surveillance (ARS)) and via the enquiry of a professional association of laboratory medicine.

Table 5: Number of SARS-CoV-2-laboratory tests in Germany (as of 23/06/2020)

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	325.416	2.713	0,8	169
Week 25	377.544	5.046	1,3	168
total	5.412.655	225.640		

Since the beginning of testing in Germany up to and including week 25/2020, 5.412.655 laboratory tests have been recorded to date, 225.640 of which have tested positive for SARS-CoV-2.

Up to and including week 25, 227 laboratories have registered for the RKI test laboratory survey or in one of the other transmitting networks and communicate mainly on a weekly basis.

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

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 (see 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 newly reported cases is currently decreasing. 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.

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)*