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

22/06/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
190,359	**8,885**	**4.7%**	**ca. 175,300*** *
(+ 537*)	(+ 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 22/06/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was 4.4 cases per 100,000 inhabitants. A total of 148 districts transmitted zero cases.
- In total, 190,359 laboratory-confirmed COVID-19 cases and 8,885 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 190,359 (+537) 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 148 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 (22/06/2020, 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 **	35,272	0	319	109	1.0	1,824	16.5
Bavaria	47,867	24	366	233	1.8	2,567	19.6
Berlin	7,833	29	209	472	12.6	211	5.6
Brandenburg	3,394	6	135	50	2.0	163	6.5
Bremen	1,648	3	241	56	8.2	49	7.2
Hamburg	5,170	7	281	25	1.4	259	14.1
Hesse	10,578	3	169	214	3.4	501	8.0
Mecklenburg-Western Pomerania ***	792	0	49	9	0.6	20	1.2
Lower Saxony	13,283	147	166	344	4.3	618	7.7
North Rhine-Westphalia *	41,218	297	230	1,860	10.4	1,663	9.3
Rhineland-Palatinate	6,917	10	169	71	1.7	234	5.7
Saarland **	2,778	0	280	10	1.0	168	17.0
Saxony **	5,408	0	133	60	1.5	221	5.4
Saxony-Anhalt	1,844	2	84	74	3.4	57	2.6
Schleswig-Holstein	3,136	2	108	17	0.6	152	5.2
Thuringia	3,221	7	150	41	1.9	178	8.3
Total	**190,359**	**537**	**229**	**3,645**	**4.4**	**8,885**	**10.7**

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

** the states of Baden-Württemberg, Saarland and Saxony did not submit any data to the RKI

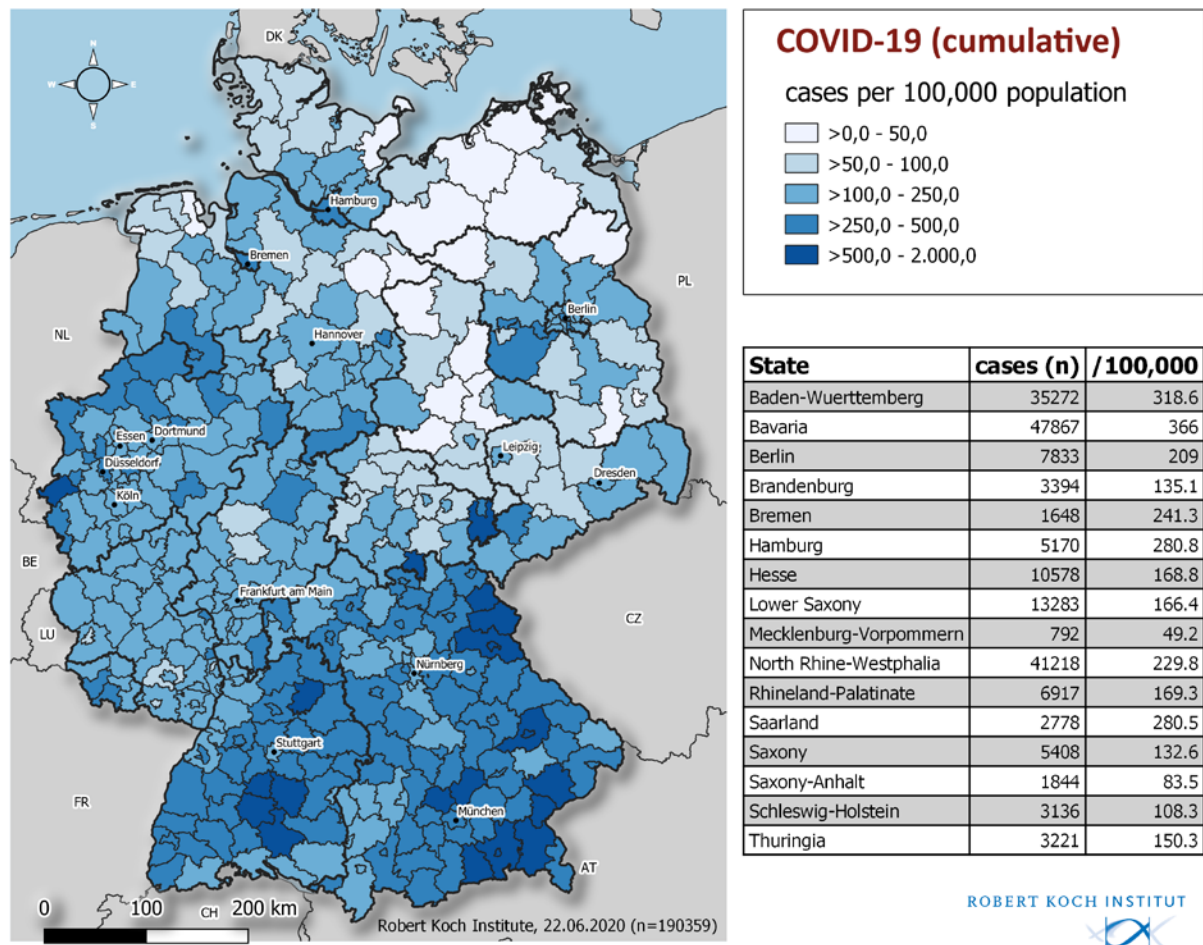*** Mecklenburg-Western Pomerania did not report any new cases since yesterday

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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	35272	318.6
Bavaria	47867	366
Berlin	7833	209
Brandenburg	3394	135.1
Bremen	1648	241.3
Hamburg	5170	280.8
Hesse	10578	168.8
Lower Saxony	13283	166.4
Mecklenburg-Vorpommern	792	49.2
North Rhine-Westphalia	41218	229.8
Rhineland-Palatinate	6917	169.3
Saarland	2778	280.5
Saxony	5408	132.6
Saxony-Anhalt	1844	83.5
Schleswig-Holstein	3136	108.3
Thuringia	3221	150.3

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Figure 1: Number and cumulative incidence (per 100,000 population) of the 190,359 electronically reported COVID-19 cases in Germany by county and federal state (22/06/2020, 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 56,457 cases (30%). When the the onset of symptoms is unknown, the date of reporting is provided in Figure 2.
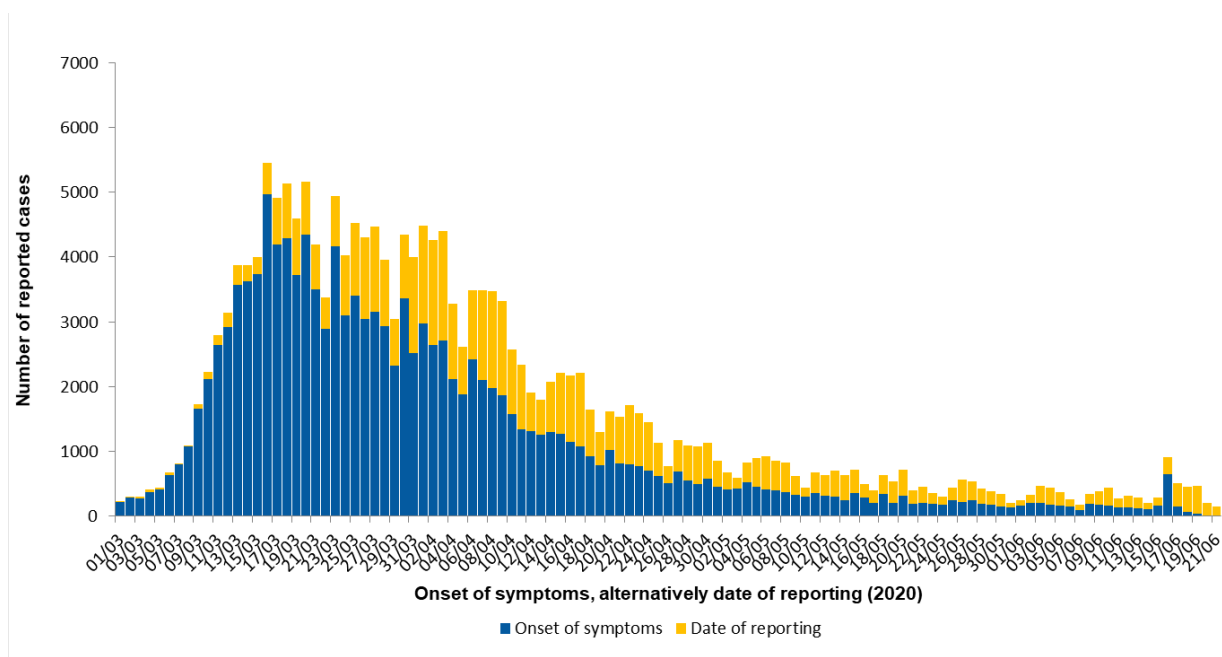
Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or alternatively by date of reporting from 01/03/2020 (22/06/2020, 12:00 AM).

Demographic distribution of cases

Of all reported cases, 52% are female and 48% are male. Among notified cases, 4,472 were children under 10 years of age (2.3%), 8.995 children and teenagers aged 10 to 19 years (4.7%), 83.008 persons aged 20 to 49 years (43%), 58.243 persons aged 50 to 69 years (31%), 29,886 persons aged 70 to 89 years (16%) and 5,317 persons aged 90 years and older (2.8%). The age is unknown in 110 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).
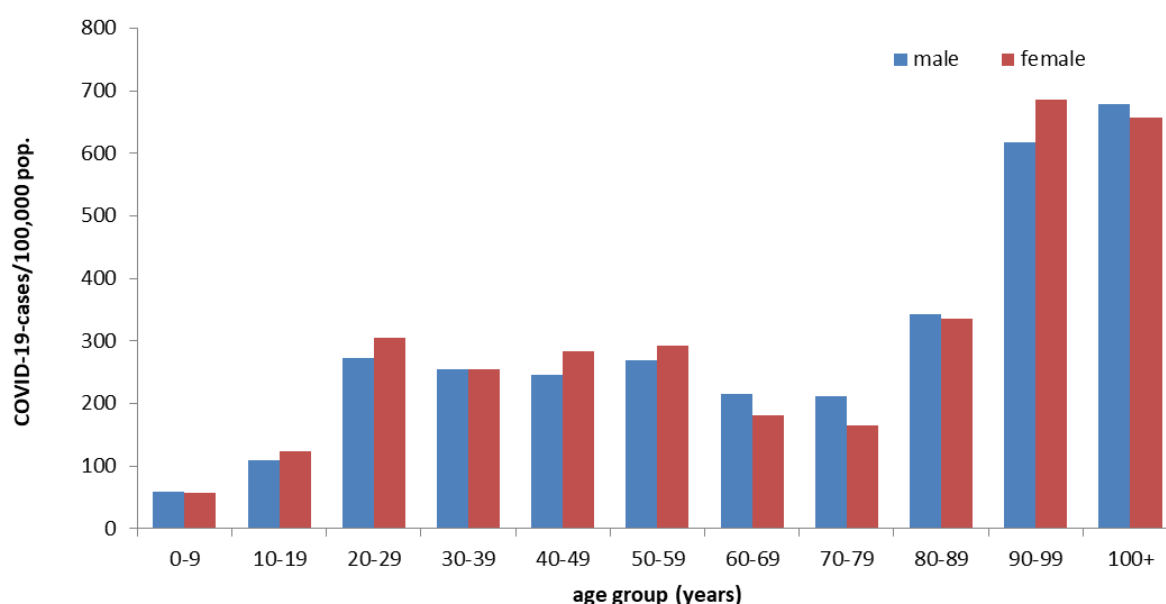

Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=189.915) for cases with information available (22/06/2020,12:00 AM).

Clinical aspects

Information on symptoms is available for 162,837 (86%) of the notified cases. Common symptoms are cough (49%), fever (41%) and rhinorrhoea (21%). Pneumonia was reported in 4,935 cases (3.0%). Since calendar week 17, cases are reported to the RKI as a distinct COVID-19 surveillance category. Since then,

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ageusia and anosmia can also be entered as symptoms. At least one of these two symptoms was reported in 2,924 of 20,160 cases (15%).

Hospitalisation was reported for 28,812 (18%) of 165,073 COVID-19 cases with information on hospitalisation status.

Approximately 175,300 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 8,880 of notified deaths; 22/06/2020, 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	624	1,346	2,085	555	6
Female	1		3	6	20	83	221	655	1,866	1,062	45
Total	1	2	9	23	69	311	845	2,001	3,951	1,617	51

In total, 8,885 COVID-19-related deaths have been reported in Germany (4.7% of all confirmed cases). Of these, 4,918 (55%) are men and 3,962 (45%) are women (see Table 2), the gender was unknown in five cases). The median age was 82 years. Of all deaths, 7,623 (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.

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.

So far, 13,677 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.

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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 (189,318* cases, no data available for 48,527 cases; 22/06/2020, 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	3,268	2,338	613	2,500
	Occupation in facility	13,677	632	20	13,500
§ 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*	2,900	63	1	2,600
	Occupation in facility	2,668	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	17,567	4,012	3,490	13,600
	Occupation in facility	9,765	419	46	9,600
§ 42 IfSG (e.g. meat processing plants or kitchens in the catering trade, in inns, restaurants, canteens, cafés, or other establishments with or for communal catering)	Occupation in facility	3,737	183	4	2,600
Neither cared for, accommodated in nor working in a facility		87,209	15,571	3,385	81,900

*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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Outbreaks

A high 7-day incidence rate was observed in five districts, primarily due to localised outbreaks: The districts of Guetersloh and the neighbour district of Warendorf (both North Rhine-Westphalia), the district of Goettingen (Lower Saxony), and the cities of Magdeburg (Saxony Anhalt) and Neukölln (city district of Berlin).

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). The town of Verl, located in the affected district, has enforced a quarantine zone for those areas in which higher numbers of the processing plant'semployees are housed. The 7-day high incidence in Warendorf is linked to the outbreak in Guetersloh . Employees of the meat processing company are residents of neighbouring districts.

A large COVID-19 outbreak occurred in the district of Goettingen related to family gatherings, for which a large number of contact persons has been identified. In Magdeburg, an outbreak affecting several now closed schools has led to an increase in the 7-day incidence.

In Neukölln, a district of Berlin, an outbreak is linked to members of a religious community. So far 85 cases are linked to this outbreak.

Once again there were major outbreaks in retirement- and nursing homes. In the district of Verden residents and nursing staff have been tested positive for SARS-CoV-2.

Further outbreaks were reported among members of religious communities, eg. from Berlin, Hesse and and Mecklenburg-Western Pomerania.

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 2 shows the result of this analysis.
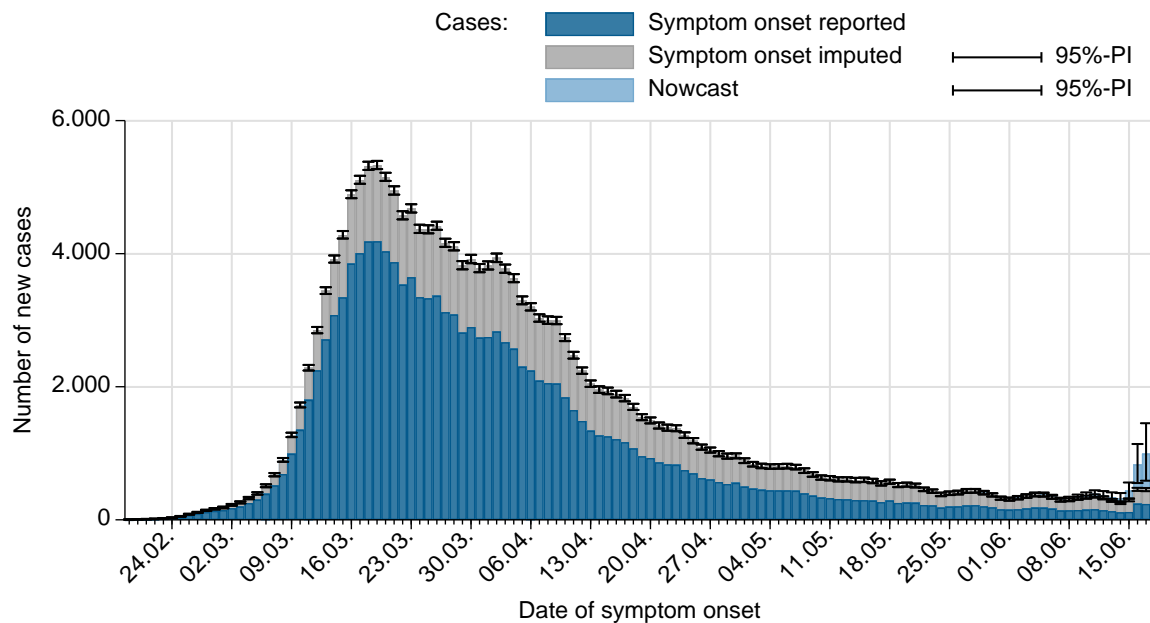
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Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 21/06/2020, 12 AM, taking into account cases up to 17/06/2020).

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.

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 2.76 (95%-prediction interval: 2.10– 3.42) and is based on electronically notified cases as of 21/06/2020, 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 1.83 (95% predictation interval: 1.51 – 2.17) and is based on electronically notified cases as of 21/06/2020, 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.

Estimates of the reproduction numbers (R-value and 7-day R-value) were around the value of 2 during the last few days. This is mainly related to local outbreaks which are described above, the outbreak in North Rhine-Westphalia playing a particularly important role in this context . Since case numbers in Germany are generally low, these local outbreaks have a relatively strong influence on the value of the reproduction number. Further developments need to be monitored closely during the upcoming days, especially in regard to whether case numbers are increasing outside of outbreak contexts.

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).

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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 22/06/2020, a total of 1,256 hospitals or departments reported to the DIVI registry. Overall, 27,891 intensive care beds were registered, of which 17,602(63%) are occupied, and 10,289 beds (37%) 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 (22/06/202022/06/2020, 12:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	349		+7
- of these: mechanically ventilated	201	57%	+3
Discharged from ICU	14,290		-12
- of these: deaths	3,604	25%	0

*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.

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.

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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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