



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

23/06/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
190,862 (+ 503*)	8,895 (+ 10*)	4.7%	ca. 175,700**

*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 23/06/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was **4.7** cases per 100,000 inhabitants. A total of **137** districts transmitted zero cases.
- In total, **190,862** laboratory-confirmed COVID-19 cases and **8,895** 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).

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 **190,862 (+503)** 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 **137** 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 (23/06/2020, 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	35,365	93	319	170	1.5	1,826	16.5
Bavaria	47,894	27	366	246	1.9	2,571	19.7
Berlin *	7,916	83	211	522	13.9	211	5.6
Brandenburg	3,407	13	136	54	2.1	164	6.5
Bremen	1,654	6	242	61	8.9	49	7.2
Hamburg****	5,170	0	281	24	1.3	259	14.1
Hesse	10,613	35	169	242	3.9	501	8.0
Mecklenburg-Western Pomerania ***	792	0	49	7	0.4	20	1.2
Lower Saxony	13,312	29	167	337	4.2	619	7.8
North Rhine-Westphalia *	41,418	200	231	1,969	11.0	1,665	9.3
Rhineland-Palatinate	6,919	2	169	64	1.6	234	5.7
Saarland ***	2,778	0	280	9	0.9	168	17.0
Saxony **	5,408	0	133	59	1.4	221	5.4
Saxony-Anhalt	1,851	7	84	75	3.4	57	2.6
Schleswig-Holstein ***	3,136	0	108	15	0.5	152	5.2
Thuringia	3,229	8	151	45	2.1	178	8.3
Total	190,862	503	230	3,899	4.7	8,895	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.

** The state of Saxony did not submit any data to the RKI

*** The states of Mecklenburg-Western Pomerania, Saarland and Schleswig-Holstein did not report any new cases since yesterday

**** Data transfer from Hamburg was not possible due to technical issues

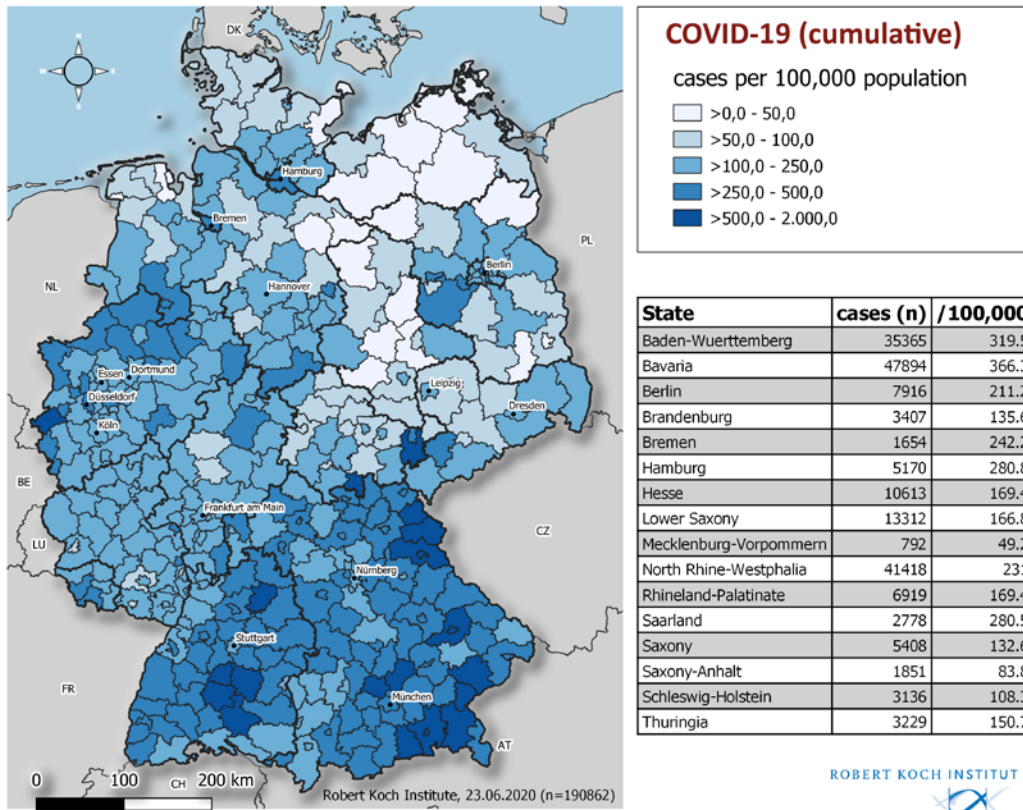


Figure 1: Number and cumulative incidence (per 100,000 population) of the 190,862 electronically reported COVID-19 cases in Germany by county and federal state (23/06/2020, 12:00 AM). Please see the COVID-19 dashboard (<https://corona.rki.de/>) for information on number of COVID-19 cases by county (local 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 56,612 cases (30%). When the onset of symptoms is unknown, the date of reporting is provided in Figure 2.

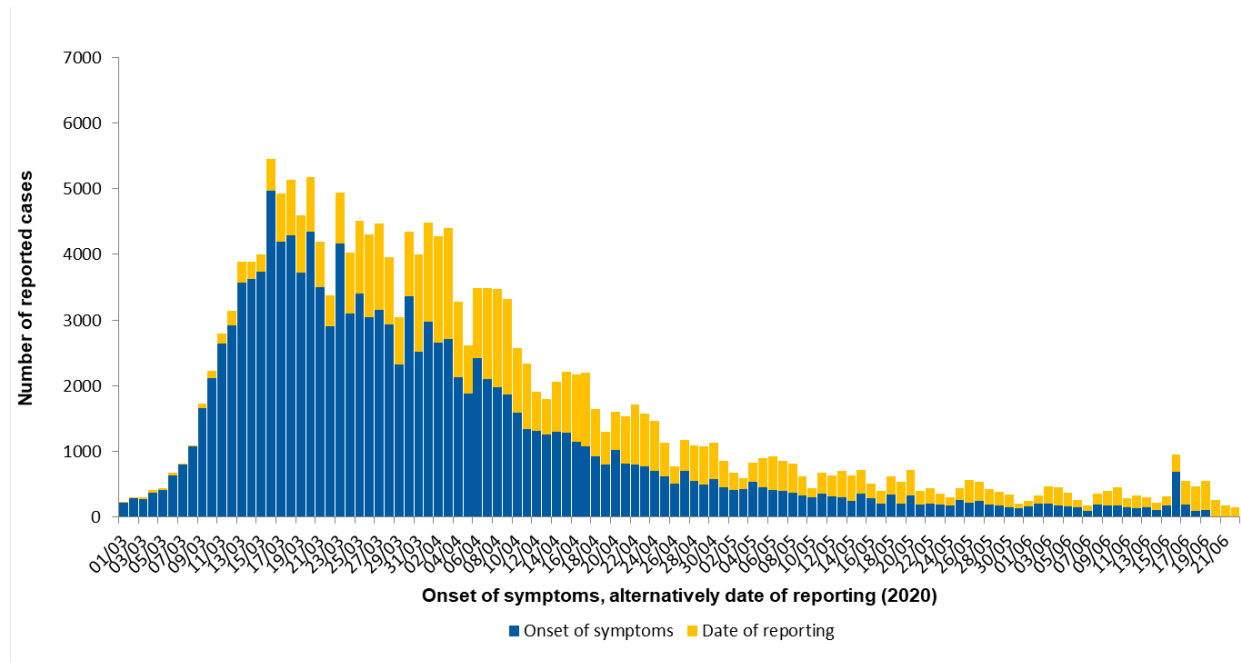


Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or alternatively by date of reporting from 01/03/2020 (23/06/2020, 12:00 AM).

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, 4,530 were children under 10 years of age (2.4%), 9,050 children and teenagers aged 10 to 19 years (4.7%), 83,273 persons aged 20 to 49 years (44%), 58,340 persons aged 50 to 69 years (31%), 29,922 persons aged 70 to 89 years (16%) and 5,321 persons aged 90 years and older (2.8%). The age is unknown in 117 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).

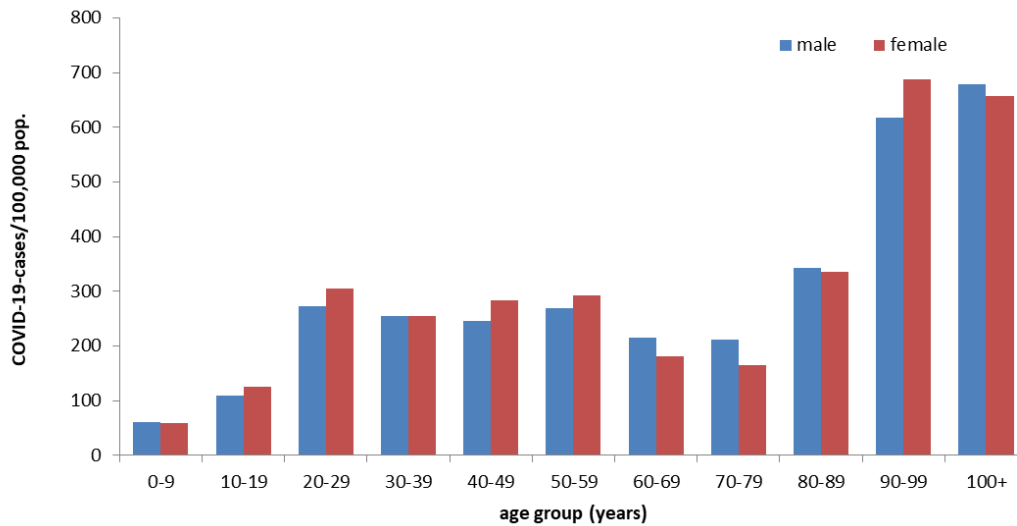


Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=190,430) for cases with information available (23/06/2020,12:00 AM).

Table 2: The COVID-19 cases reported to the RKI according to gender and the proportion of hospitalization and deceased for the reporting weeks 10 - 25 (23/06/2020, 12:00 AM).

Week	Total cases	Mean age (years)	Men	Women	Number information on hospitalisation	Number hospitalized	Percent hospitalized	Number of deaths	Percent deaths
10	895	43	54%	46%	800	162	20%	12	1.3%
11	6,404	45	56%	44%	5,573	514	9%	81	1.3%
12	22,431	46	55%	45%	19,187	2,171	11%	470	2.1%
13	34,025	48	49%	51%	29,184	5,033	17%	1,434	4.2%
14	36,089	51	45%	55%	31,283	5,983	19%	2,226	6.2%
15	27,144	52	43%	57%	23,844	4,644	19%	1,834	6.8%
16	17,327	52	45%	55%	15,367	3,314	22%	1,190	6.9%
17	12,365	51	45%	55%	10,850	2,196	20%	698	5.6%
18	7,425	49	48%	52%	6,507	1,333	20%	362	4.9%
19	6,229	47	48%	52%	5,506	1,039	19%	236	3.8%
20	4,731	46	49%	51%	4,128	719	17%	146	3.1%
21	3,600	44	50%	50%	3,036	494	16%	99	2.8%
22	3,208	42	52%	48%	2,690	397	15%	51	1.6%
23	2,348	39	51%	49%	2,003	292	15%	36	1.5%
24	2,333	38	54%	46%	1,987	262	13%	13	0.6%*
	3,930	37	58%	42%	3,327	245	7%	6	0.2%*

* Data not yet meaningful, as outcome of the diseases in these weeks is still unclear

Table 2 shows the mean age, gender distribution, percentage of hospitalized cases and deaths among cases reported in calendar weeks 10 to 24. The percentage of deaths in weeks 24 and 25 are not yet meaningful, as the course of disease is not yet known for all cases.

The depiction of notified COVID-19 cases in Germany according to age groups and reporting week, shows a continuous and distinct relative decrease among the over 80 year olds since reporting week 17. In comparison, the proportion of cases in the younger age groups between 0-29 years of age is increasing. With week 25 the proportion of 40-49 year olds is strongly increased (Figure 4).

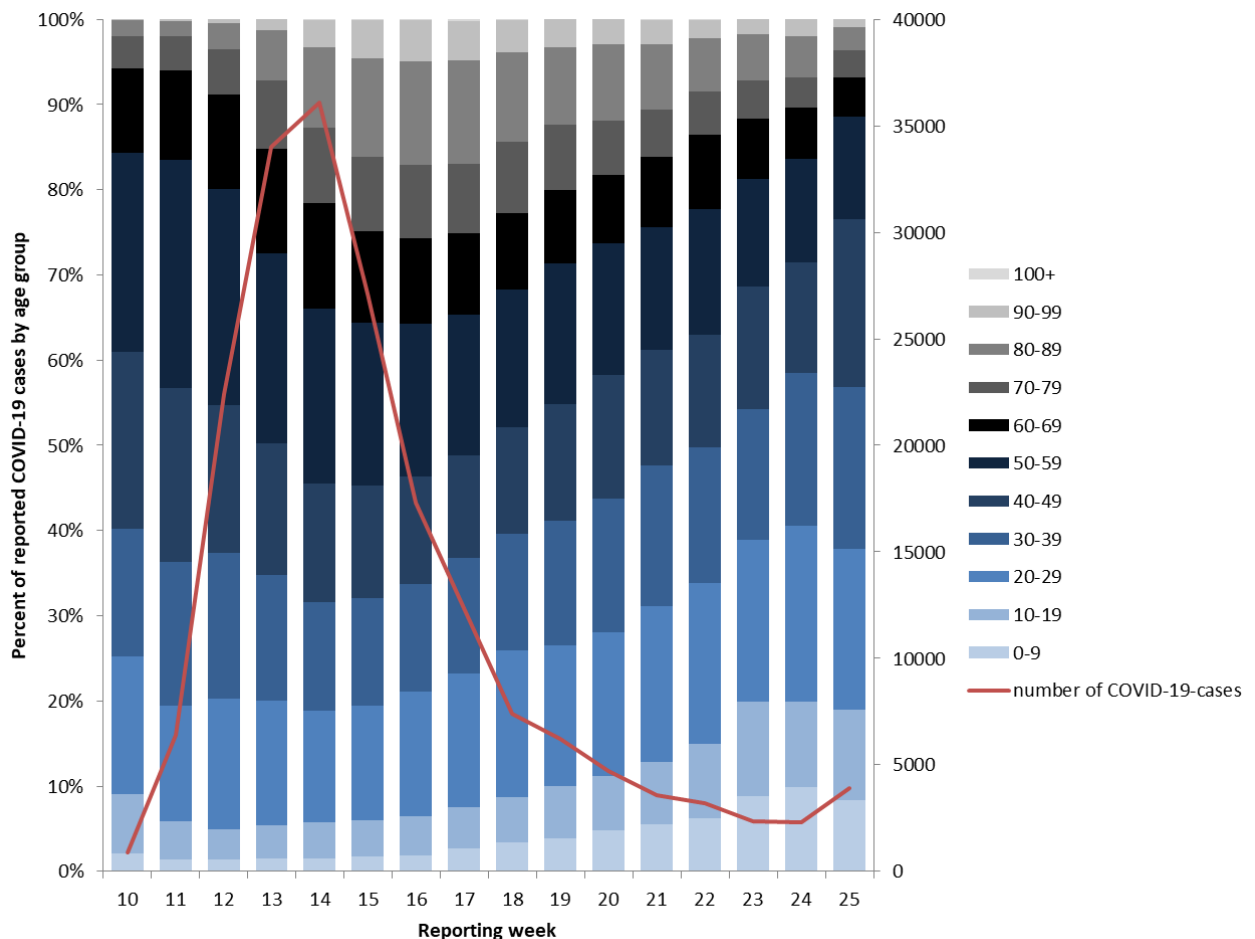


Figure 4: Percent of notified COVID-19 cases by age group and reporting week (n=190,378 cases with respective data in the weeks 10 to 25 (23/06/2020, 12:00 AM)). Cumulative case numbers are represented by a red line.

Clinical aspects

Information on symptoms is available for **163,279** (86%) of the notified cases. Common symptoms are cough (49%), fever (41%) and rhinorrhoea (21%). Pneumonia was reported in **4,947** 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 **2,970** of **20,527** cases (15%).

Hospitalisation was reported for **28,865** (18%) of **165,552** COVID-19 cases with information on hospitalisation status.

Approximately **175,700** 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 3: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 8,890 of notified deaths; 23/06/2020, 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, 8,895 COVID-19-related deaths have been reported in Germany (4.7% of all confirmed cases). Of these, 4,921 (55%) are men and 3,969 (45%) are women (see Table 2), the gender was unknown in five cases). The median age was 82 years. Of all deaths, 7,626 (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.

Table 4: Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases electronically reported to RKI (189,811* cases, no data available for 48,542 cases; 23/06/2020, 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	3,284	2,349	615	2,500
	Occupation in facility	13,696	631	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*	2,963	63	1	2,600
	Occupation in facility	2,675	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	17,604	4,016	3,491	13,700
	Occupation in facility	9,781	418	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	3,824	185	4	2,600
Neither cared for, accommodated in nor working in a facility		87,442	15,601	3,388	82,100

*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

So far, **13,696** 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 rate was observed in **five** districts, primarily due to localised outbreaks: The districts of **Guetersloh and the neighbouring district of Warendorf** (both North Rhine-Westphalia), the district of **Goettingen** (Lower Saxony), and the cities of **Magdeburg** (Saxony Anhalt) and **Berlin-Neukoelln** (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's employees 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 city 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.

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 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 5 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.

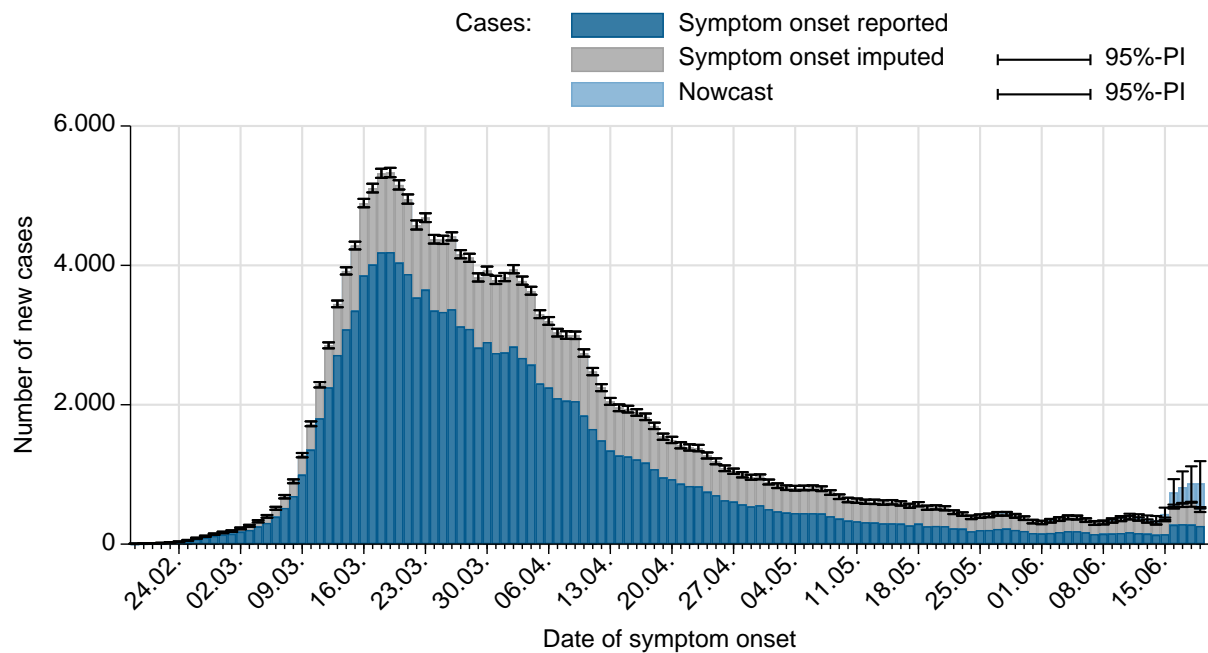


Figure 5: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 23/06/2020, 12 AM, taking into account cases up to 19/06/2020).

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 **2.02** (95%-prediction interval: **1.53– 2.41**) and is based on electronically notified cases as of 23/06/2020, 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 **1.67** (95% prediction interval: **1.4 – 1.91**) and is based on electronically notified cases as of 23/06/2020, 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. Close monitoring of further developments needs to be continued 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>).

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 23/06/2020, a total of **1,261** hospitals or departments reported to the DIVI registry. Overall, **27,568** intensive care beds were registered, of which **17,964 (65%)** are occupied, and **9,604 beds (35%)** are currently available. The number of COVID-19 cases treated in participating hospitals is shown in Table 5.

Table 5: COVID-19 patients requiring intensive care (ICU) recorded in the DIVI register (23/06/2020, 12:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	337		-12
- of these: mechanically ventilated	194	57%	-7
Discharged from ICU	14,309		+19
- of these: deaths	3,605	25%	1

*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.

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