



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

03/06/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
<b>182,370</b> (+ 342*)	<b>8,551</b> (+ 29*)	<b>4.7%</b>	<b>ca. 167,300**</b>

\*Change from previous day; \*\*Estimate

– Changes since the last report are marked *blue* in the text –

### Summary (as of 03/06/2020, 12:00 AM)

- In total, **182,370** COVID-19 cases and **8,551** deaths due to COVID-19 have been electronically reported to the Robert Koch Institute in Germany.
- The cumulative incidence (cases per 100,000) of COVID-19 is currently highest in Bavaria (**360**), Baden-Wuerttemberg (**314**), Hamburg (**277**) and Saarland (**276**).
- Most cases (67%) are between 15 and 59 years old. Women (52%) and men (48%) are almost equally affected. Slightly more men (55%) than women (45%) died.
- People aged 70 years or older account for 86% of deaths but only 19% of all cases.
- 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 connection with a religious event or in meat processing plants).

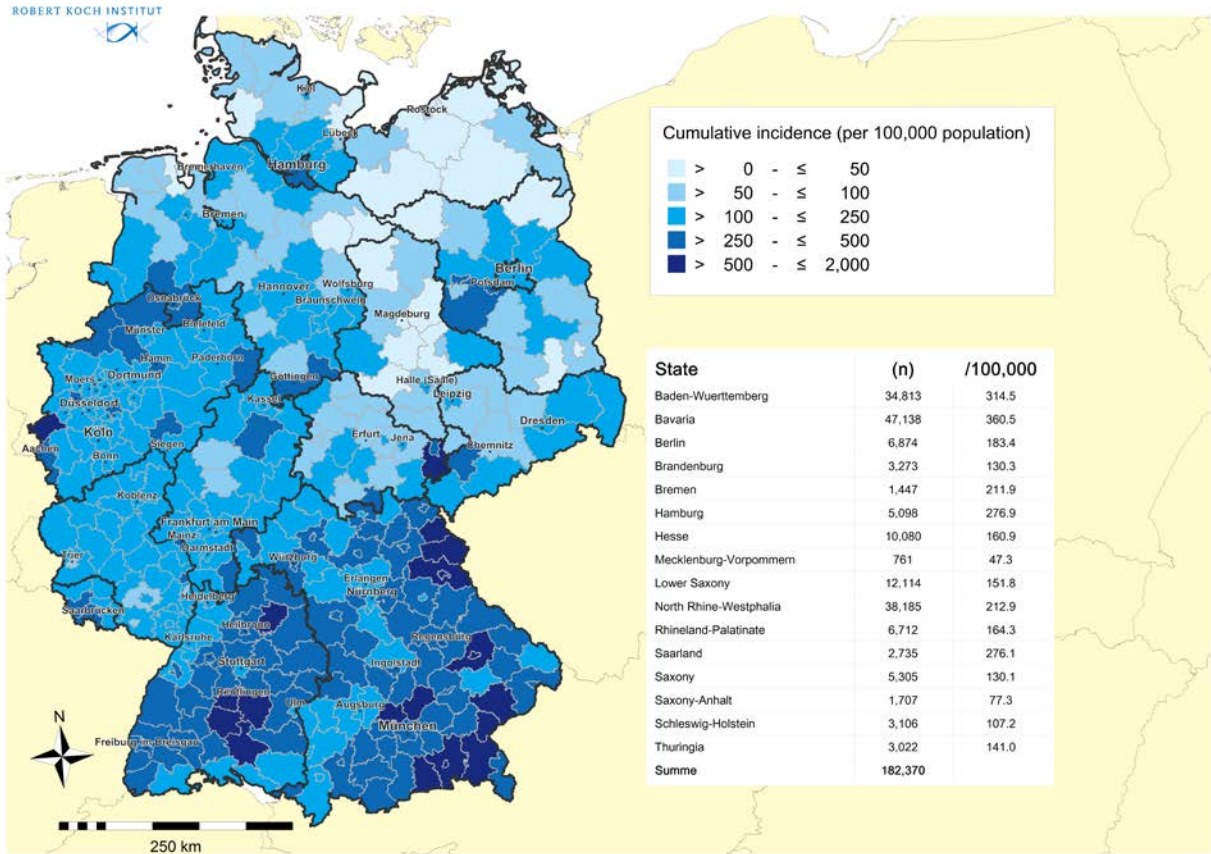
# Epidemiological Situation in Germany

## Geographical distribution of cases

Epidemiological analyses are based on validated cases notified electronically to the Robert Koch Institute (RKI) in line with the Protection Against Infection Law (Data closure: 12:00 AM daily). Since January 2020, a total of **182,370 (+342)** laboratory-confirmed cases of coronavirus disease 2019 (COVID-19) have been electronically reported to and validated by the RKI, including **8,551** deaths (see Table 1 and Figure 1). A total of **107** districts reported no cases in the past 7 days. Information on confirmed cases is also available on the RKI website at [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Fallzahlen.html](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 notified laboratory-confirmed COVID-19 cases and deaths for each federal state, Germany (03/06/2020, 12:00 AM).

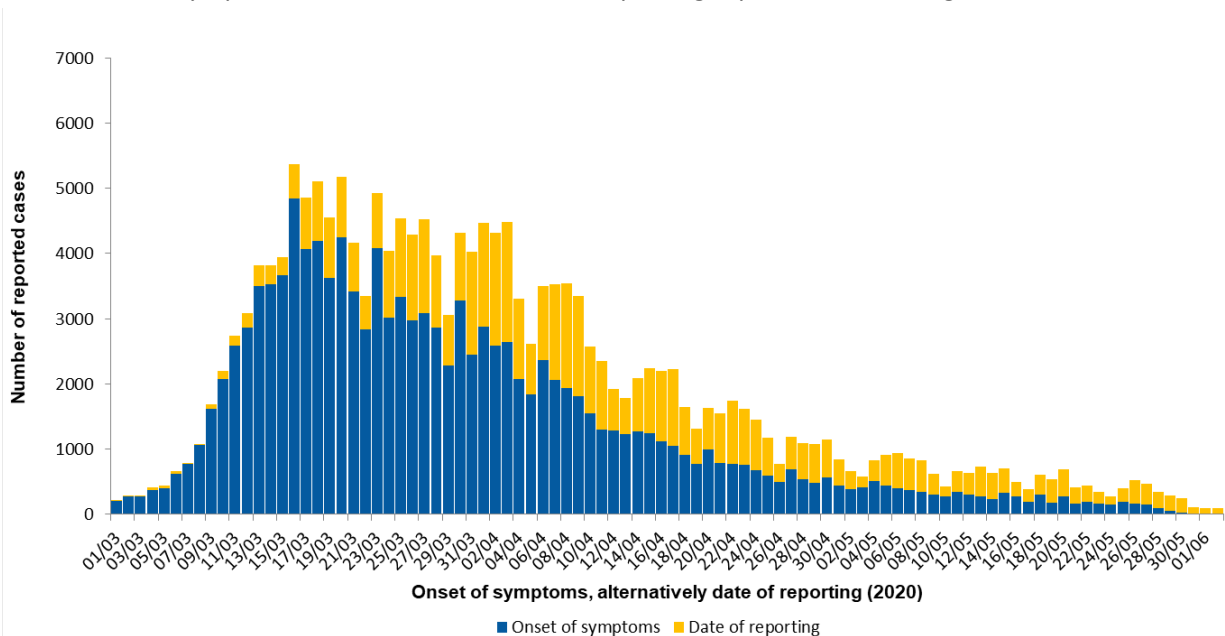
Federal State	Total Number of cases	Number of new cases	Cases/ 100,000 pop.	Cases in the last 7 days	7-day incidence per 100,000 pop.	Number of deaths	Number of deaths/ 100,000 pop.
Baden-Wuerttemberg	34,813	17	314	214	1.9	1,760	15.9
Bavaria	47,138	109	360	442	3.4	2,466	18.9
Berlin	6,874	35	183	182	4.9	198	5.3
Brandenburg	3,273	-1	130	24	1.0	156	6.2
Bremen	1,447	11	212	124	18.2	43	6.3
Hamburg	5,098	0	277	13	0.7	253	13.7
Hesse	10,080	20	161	197	3.1	480	7.7
Mecklenburg-Western Pomerania	761	0	47	2	0.1	20	1.2
Lower Saxony	12,114	49	152	384	4.8	596	7.5
North Rhine-Westphalia	38,185	85	213	577	3.2	1,607	9.0
Rhineland-Palatinate	6,712	8	164	65	1.6	230	5.6
Saarland	2,735	5	276	23	2.3	163	16.5
Saxony	5,305	-4	130	43	1.1	212	5.2
Saxony-Anhalt	1,707	0	77	7	0.3	55	2.5
Schleswig-Holstein	3,106	3	107	33	1.1	146	5.0
Thuringia	3,022	5	141	95	4.4	166	7.7
<b>Total</b>	<b>182,370</b>	<b>342</b>	<b>219</b>	<b>2,425</b>	<b>2.9</b>	<b>8,551</b>	<b>10.3</b>



**Figure 1:** Number and cumulative incidence (per 100,000 population) of the 182,370 electronically reported COVID-19 cases in Germany by county and federal state (03/06/2020, 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 55,747 cases (31%). When the onset of symptoms is unknown, the date of reporting is provided in the figure 2.

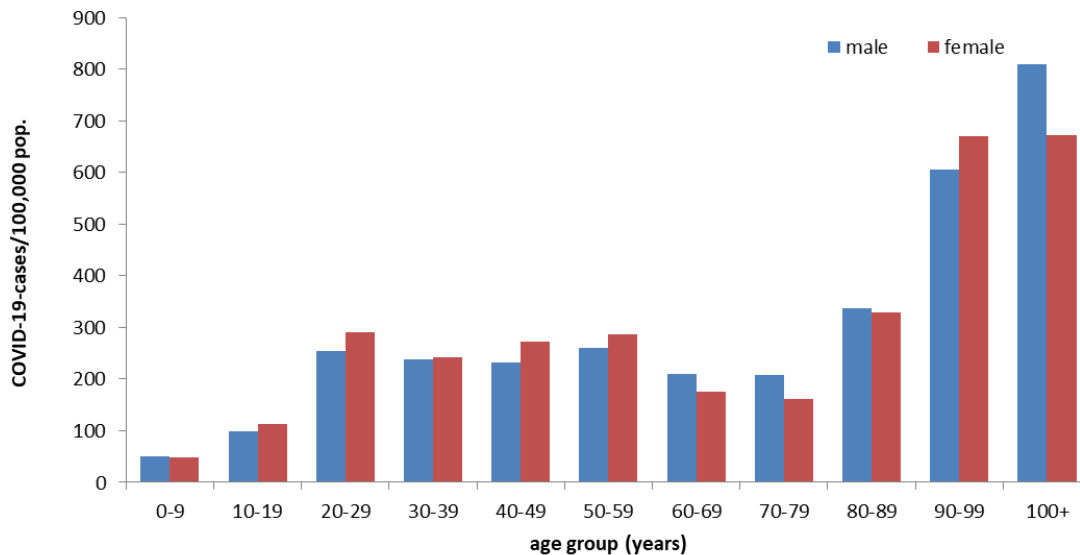


**Figure 2:** Number of electronically reported COVID-19 cases in Germany by date of symptom onset and by date of reporting from 01/03/2020 (03/06/2020, 12:00 AM).

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 notified cases, 3,771 were children under 10 years of age (2.1%), 8,164 children and teenagers aged 10 to 19 years (4.5%), 78,931 persons aged 20 to 49 years (43%), 56,846 persons aged 50 to 69 years (31%), 29,335 persons aged 70 to 89 years (16%) and 5,212 persons aged 90 years and older (2.9%). The age is unknown in 111 notified cases. The mean age of cases is 49 years (median age 50 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=181,938) for cases with information available (03/06/2020, 12:00 AM).

Table 2 shows the mean age, gender distribution, percentage of hospitalized cases and deaths among cases reported in calendar weeks 10 to 21. The percentage of deaths in weeks 20 and 21 are not yet meaningful, as the outcome is not yet known for all cases.

**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 - 22 (02.06.2020, 12AM).

Week	Total cases	Mean age (years)	Men	Women	Number information on hospitalisation	Number hospitalized	Percent hospitalized	Number of deaths	Percent deaths
10	894	43	53%	47%	791	166	21%	11	1,2%
11	6.385	45	56%	44%	5491	507	9%	78	1,2%
12	22.420	46	55%	45%	18896	2143	11%	464	2,1%
13	34.000	48	50%	50%	28718	4961	17%	1418	4,2%
14	36.103	51	45%	55%	30777	5906	19%	2186	6,1%
15	27.179	52	43%	57%	23524	4575	19%	1806	6,6%
16	17.345	52	45%	55%	15070	3265	22%	1157	6,7%
17	12.410	51	45%	55%	10599	2162	20%	682	5,5%
18	7.454	49	48%	52%	6420	1323	21%	343	4,6%
19	6.235	47	48%	52%	5366	1015	19%	210	3,4%
20	4.729	46	49%	51%	3986	689	17%	120	2,5%
21	3.605	44	50%	50%	2908	460	16%	61	1,7%*
22	3.152	42	52%	48%	2434	337	14%	14	0,4%*

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

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

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 19. In comparison, the proportion of cases in the younger age groups between 0-29 years of age is increasing (Figure 4).

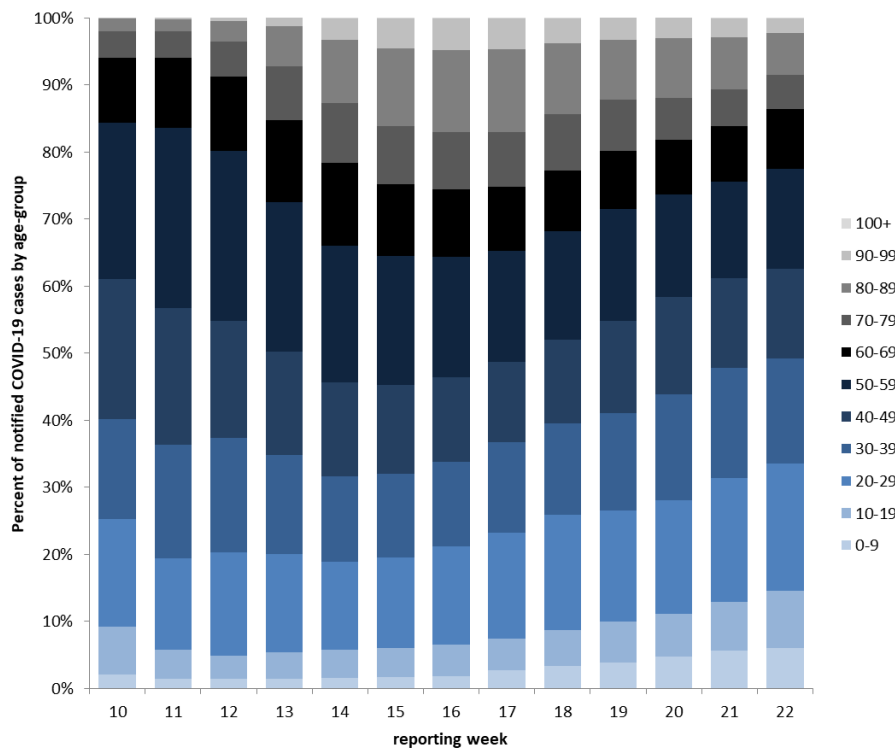


Figure 4: Percent of notified Covid-19 cases by age group and reporting week (n=181,800 cases with respective data in the weeks 10 to 22 as of 03/06/2020 12 AM).

## Clinical aspects

Information on symptoms is available for **154,532** (85%) of the notified cases. Common symptoms are cough (49%), fever (41%) and rhinorrhoea (21%). Pneumonia was reported in **4,645** cases (3.0%). Since calendar week 17, cases are reported to the RKI as a distinct COVID-19 surveillance category. Since then, loss of smell and taste can also be entered as symptoms. At least one of these two symptoms was reported in **2,164** of **14,281** cases (15%).

Hospitalisation was reported for **27,604** (18%) of **155,342** COVID-19 cases with information on hospitalisation status.

Approximately **167,300** 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 the number of recovered cases.

In total, **8,551** COVID-19-related deaths have been reported in Germany (4.7% of all confirmed cases). Of these, **4,739** (55%) are men and **3,807** (45%) are women (see Table 3; gender was unknown in five cases). The median age was 82 years. Of all deaths, **7,354** (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.

**Table 3:** Number of notified COVID-19 deaths by age group and gender (Data available for 8,546 of notified deaths; 03/06/2020, 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	15	49	218	594	1,298	2,009	543	5
Female	1		3	6	18	72	211	620	1,818	1,013	45
<b>Total</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>21</b>	<b>67</b>	<b>291</b>	<b>806</b>	<b>1,920</b>	<b>3,828</b>	<b>1,556</b>	<b>50</b>

### Occupation, accommodation or care in facilities

In accordance with the Protection Against Infection Law (IfSG), the RKI receives information on occupation, accommodation or care in a facility relevant for infection control for reported COVID-19 cases (Table 4).

**Table 4:** Notified COVID-19-cases according to possible occupation, accommodation or care in facilities relevant for transmission of infectious diseases (181,390\* cases, no data available for 50,882 cases; 03/06/2020, 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	3,013	2,120	569	2,300
	Occupation in facility	12,913	594	20	12,600
§ 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*	2,276	59	1	2,100
	Occupation in facility	2,496	121	7	2,400
§ 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	16,590	2,251	3,264	12,400
	Occupation in facility	9,339	397	49	9,000
§ 42 IfSG (e.g. kitchens in the catering trade, in inns, restaurants, canteens, cafés, or other establishments with or for communal catering)	Occupation in facility	2,444	160	51**	2,200
Neither cared for, accommodated in nor working in a facility		81,437	14,723	3,231	76,400

\*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

\*\* incorrect high case number due to technical data transmission problems

Since information on care/attendance, accommodation and occupation in these facilities is missing in 29% of cases, the proportion of cases cared for, accommodated or working in these facilities shown here should be considered minimums values. Among the COVID-19 cases reported as being cared for/attending, accommodated in or working in all of the above mentioned facilities, the proportion of cases that actually acquired their infection in these settings is unknown.

Until now, 12,913 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.

## Outbreaks

A high 7-day incidence rates was observed in [two](#) cities or districts which is mainly due to localised outbreaks: in the district Sonneberg (Thuringia) and in the [city Bremerhaven \(Bremen\)](#).

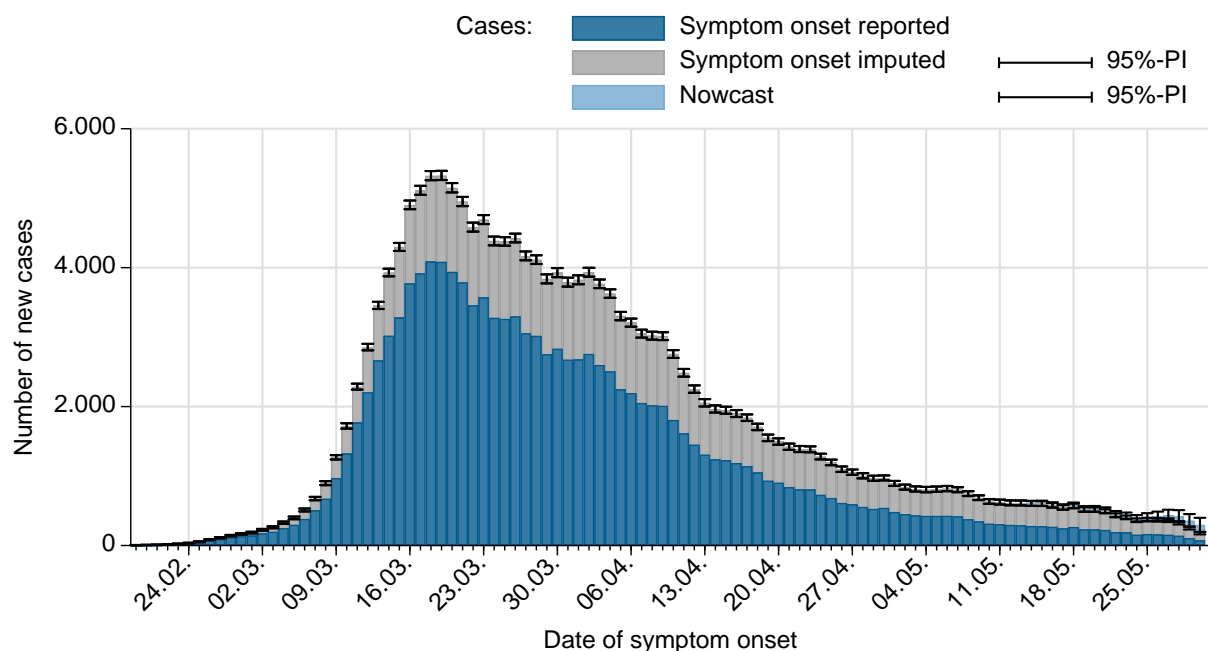
[In the city of Bremerhaven and surrounding districts, an outbreak occurred amongst the social circles of a religious community.](#) In the district Sonneberg, an outbreak occurred in a nursing home for the elderly in which several residents and employees were infected with SARS-Cov-2. There was also one case each among employees of an outpatient nursing service and a kindergarten.

[A Covid-19 outbreak occurred in the district of Göttingen, probably due to transmissions during private family celebrations and for which a large number of contact persons has been identified.](#)

Outbreaks continue to occur in meat-processing plants in several federal states, some of which have led to production closures. [Further outbreaks in religious communities are reported from Berlin and from Hessen.](#)

## 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 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.



**Figure 5:** Display of cases with known onset of the disease (dark blue), estimated onset of the disease for cases where the onset of the disease has not been reported (grey) and estimated course of already symptomatic cases (light blue) (as of 03/06/2020 12 AM, taking into account cases up to 30/05/2020).

The reproduction number,  $R$ , is defined as the mean number of people infected by an infected person.  $R$  can only be estimated based on statistical analyses such as nowcasting and not directly extracted from the notification system.  $s$



The R-value reported to date reflects the trend in the number of incident cases with a high degree of sensitivity. This value is thus sensitive to short-term changes in the number of cases - such as those caused by individual outbreaks - which can lead to relatively large fluctuations, especially if the total number of new cases is relatively low. In addition to this sensitive R-value, the RKI therefore now provides a second, more stable 7-day R-value, which is based on data from a longer time period and is therefore less subject to short-term fluctuations. Thus, it reflects trends more reliably, but is based on infections that occurred on average earlier than those on which the more sensitive R-value is based.

Both R-values are estimated on the basis of nowcasting. The nowcasting predicts the number of cases with illness onset up to the date of 4 days ago, as no reliable prediction can be made about the number of new cases in the last 3 days.

The sensitive R-value reported so far can be estimated using a moving 4-day average of the number of incident cases as estimated by nowcasting. It compares the 4-day mean of incident cases on one day with the corresponding mean 4 days before. Thus, taking into account that infection occurs four to six days before the onset of symptoms, the daily sensitive R-value represents the course of infection approximately one to two weeks ago. The current estimate is  $R = 0.71$  (95%-prediction interval:  $0.59 - 0.85$ ) and is based on electronically notified cases as of 03/06/2020, 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. The 7-day R-value then compares the 7-day average of the new cases on one day with the 7-day average four days earlier. The 7-day R thus 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  $0.83$  (95% prediction interval:  $0.76 - 0.90$ ) and is based on electronically notified cases as of 03/06/2020, 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](http://www.rki.de/covid-19-nowcasting). A detailed methodological explanation of the more stable 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](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 03/06/2020, a total of **1,269** hospitals or departments reported to the DIVI registry. Overall, **32,335** intensive care beds were registered, of which **20,517** (63%) are occupied, and **11,818** beds (37%) 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 (03/06/2020, 9:15 AM).

	Number of patients	Percentage	Change to previous day
<b>Currently in ICU</b>	632		-57
- of these: mechanically ventilated	360	57%	-18
<b>Discharged from ICU</b>	13,832		+191
- of these: deaths	3,602	26%	+45

### 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.

Since the beginning of testing in Germany up to and including week 22, 2020, 4.348.880 laboratory tests have been recorded to date, 214,373 of which have tested positive for SARS-CoV-2.

Up to and including week 22, 225 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 (see Table 5).

**Table 6:** Number of SARS-CoV-2-laboratory tests in Germany (as of 02/06/2020)

Weeks 2020	Number tests	Tested positiv	Proportion positive (%)	Number of reporting laboratories
<b>Up until week 11</b>	124,716	3,892	3.1	90
<b>week 11</b>	127,457	7,582	5.9	114
<b>week 12</b>	348,619	23,820	6.8	152
<b>week 13</b>	361,515	31,414	8.7	151
<b>week 14</b>	408,348	36,885	9.0	154
<b>week 15</b>	380,197	30,791	8.1	164
<b>week 16</b>	331,902	22,082	6.7	168
<b>week 17</b>	363,890	18,083	5.0	178
<b>week 18</b>	326,788	12,608	3.9	175
<b>week 19</b>	403,875	10,755	2.7	182
<b>week 20</b>	432,666	7,233	1.7	182
<b>week 21</b>	346,470	5,121	1.5	174
<b>week 22</b>	392,437	4,107	1.0	169
<b>total</b>	<b>4,348,880</b>	<b>214,373</b>	<b>4.9</b>	

## 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 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

- From 15 June, travel within Europe should be possible again - if the occurrence of infection allows it. <https://www.bundesregierung.de/breg-de/themen/coronavirus/reisen-wieder-moeglich-1757372> (in German)
- Information on additional regulations at the regional level regarding physical distancing can be found 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-bundeskanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248> (in German)