ROBERT KOCH INSTITUT

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

05/07/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
196,335 (+ 239*)	**9,012** (+2*)	**4.6%**	**ca. 181,700**

**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 05/07/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was 2.9 cases per 100,000 inhabitants. A total of 126 districts transmitted zero cases.
- In total, 196,335 laboratory-confirmed COVID-19 cases and 9,012 deaths due to COVID-19 have been electronically reported to the RKI in Germany.
- COVID-19 outbreaks continue to be reported sporadically in nursing homes, hospitals refugee facilities and religious communities.
- Outbreaks of COVID-19 in meat processing plants have been reported in several federal states. In the district of Guetersloh in North Rhine-Westphalia, such an outbreak has led to a high 7-day incidence of over 50 cases per 100,000 inhabitants.

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 196,335 (+239) 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 126 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 (05/07/2020, 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*	35,807	0	323	156	1.4	1,837	16.6
Bavaria	48,665	10	372	340	2.6	2,600	19.9
Berlin	8,434	41	225	248	6.6	215	5.7
Brandenburg	3,460	1	138	29	1.2	167	6.6
Bremen	1,678	3	246	17	2.5	53	7.8
Hamburg	5,220	3	284	25	1.4	261	14.2
Hesse	10,939	21	175	168	2.7	512	8.2
Mecklenburg-Western Pomerania	804	0	50	3	0.2	20	1.2
Lower Saxony	13,664	17	171	138	1.7	635	8.0
North Rhine-Westphalia	43,990	137	245	1,106	6.2	1,687	9.4
Rhineland-Palatinate	7,080	0	173	93	2.3	235	5.8
Saarland *	2,805	0	283	3	0.3	174	17.6
Saxony *	5,458	0	134	15	0.4	224	5.5
Saxony-Anhalt	1,880	0	85	10	0.5	59	2.7
Schleswig-Holstein	3,181	3	110	30	1.0	152	5.2
Thuringia	3,270	3	153	21	1.0	181	8.4
Total	**196,335**	**239**	**236**	**2,402**	**2.9**	**9,012**	**10.8**

** The states of Baden-Wuerttemberg, Saarland and Saxony did not submit any data to the RKI since yesterday.*

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

Distribution of cases over time

The first COVID-19 cases in Germany were notified in January 2020. In Figure 1 shows COVID-19 transmitted to RKI according to date of illness onset from 01.03.2020 onwards. Of these cases, the onset of symptoms is unknown in 58,761 cases (30%), thus their date of reporting is provided.

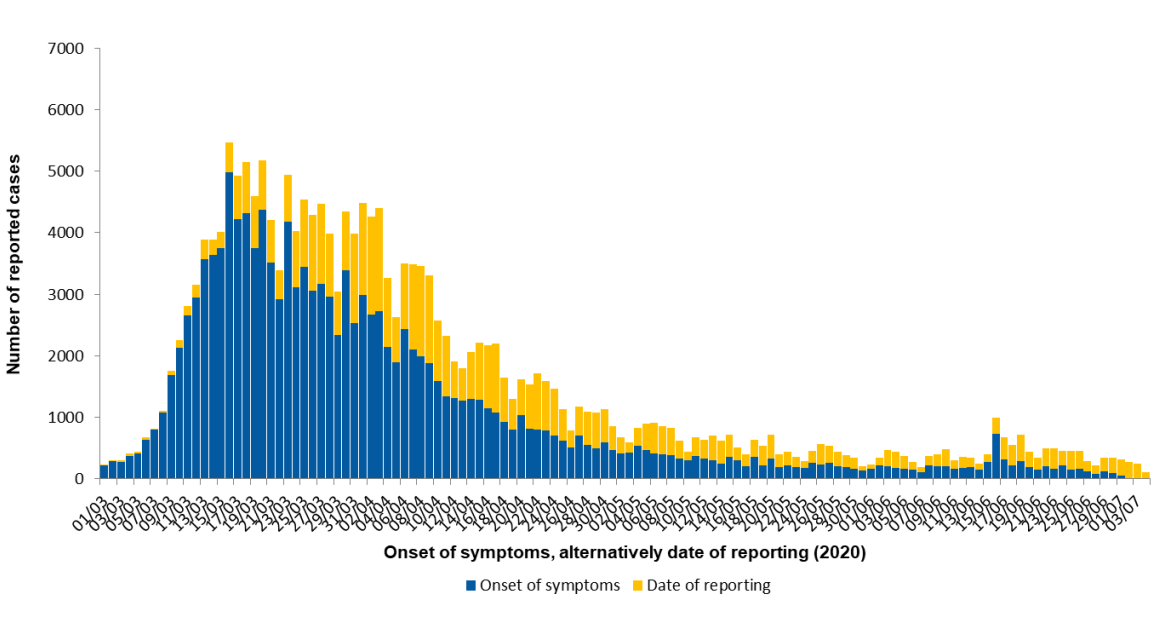

Figure 1: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or –if unknown– alternatively by date of reporting from 01/03/2020 (05/07/2020, 12:00 AM).

Clinical aspects

Approximately 181,700 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 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 9,007 of notified deaths; 05/07/2020, 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	52	234	635	1,366	2,101	564	7
Female	1		3	6	22	85	227	663	1,896	1,076	44
Total	**1**	**2**	**9**	**23**	**74**	**319**	**862**	**2,029**	**3,997**	**1,640**	**51**

In total, 9,012 COVID-19-related deaths have been reported in Germany (4.6% of all confirmed cases). 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 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 (195.207* cases, no data available for 48.937 cases; 05/07/2020, 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	3,402	2,440	628	2,700
	Occupation in facility	13,929	637	20	13,800
§ 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*	3,336	72	1	3,000
	Occupation in facility	2,761	145	7	2,700
§ 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	18,020	4,088	3,560	14,100
	Occupation in facility	9,955	423	43	9,800
§ 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	4,546	192	5	4,000
Neither cared for, accommodated in nor working in a facility		90,321	15,943	3,437	84,800

*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

Outbreaks

A high 7-day incidence with more than 25 cases per 100,000 inhabitants was observed in two districts, the district of Guetersloh (North Rhine-Westphalia) and the district of Germersheim (Rhineland-Palatinate) .

The high 7-day incidence in the district Guetersloh is due to an outbreak in a meat processing plant. Increased case numbers in neighboring districts are linked to this outbreak, as employees of the meat processing company are residents of these districts. More than 1,500 employees were tested positive for SARS-CoV-2. The first employees were discharge from quarantine 14 days after being tested positive for SARS-CoV-2 and 48 hours after resolution of symptoms.

In the district of Germersheim, an increase in COVID-19 cases was observed in connection with a religious community.

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 2 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.

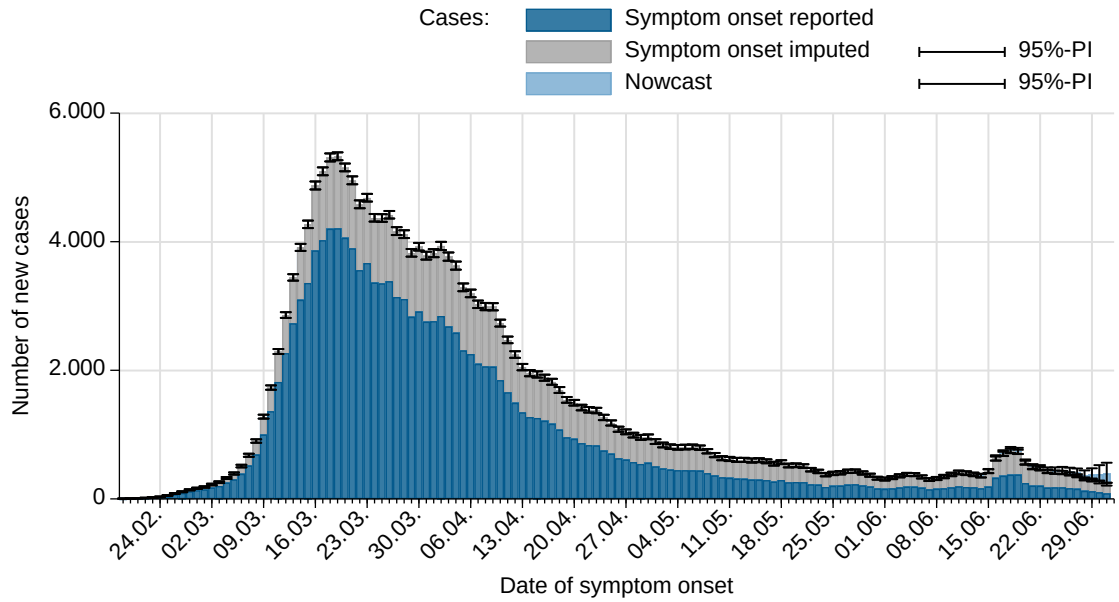

Figure 2: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 05/07/2020, 12 AM, taking into account cases up to 30/06/2020).

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 0.96 (95%-prediction interval: 0.77 – 1.17) and is based on electronically notified cases as of 05/07/2020, 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 0.94 (95% prediction interval: 0.84 – 1.06) and is based on electronically notified cases as of 05/07/2020, 12:00 AM.

In Mid-June, the estimated reproduction numbers (R-value and 7-day R-value) temporarily increased, but have since again decreased to a value of 1 or below. The marked increase was related to increased case numbers mainly due to local, outbreak-related COVID-19 transmission with the outbreak in North Rhine-Westphalia playing a particularly important role (see section “Outbreaks”, above). The outbreak dynamics are also influenced in part by serial tests performed among possibly exposed persons, which led to the rapid detection of large numbers of additional COVID-19 cases in some of the outbreak settings. Since the case numbers in Germany are at a low level overall, local outbreaks have a relatively strong influence on the value of the reproduction number. For this reason, the reproduction numbers may continue to fluctuate markedly.

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)

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. COVID-19 outbreaks continue to be reported sporadically. 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

- Information on the designation of international risk areas (03.07.2020) https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete_neu.html
- Guidance for the public „Do I have it and what should I do?“ in three languages (26.06.2020) *(in English, French and German)* https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Orientierungshilfe_Buerger.html
- 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/

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

- 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)*