



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

02/07/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases

195,228
(+ 503*)

Deaths

8,994
(+ 9*)

Deaths (%)

4.6%

Recovered

ca. 180,300**

*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 02/07/2020 12:00 AM)

- The cumulative nationwide incidence over the past 7 days was **3.3** cases per 100,000 inhabitants. A total of **134** districts transmitted zero cases.
- In total, **195,228** laboratory-confirmed COVID-19 cases and **8,994** 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 and 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.

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 **195,228 (+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 **134** 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 (02/07/2020, 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	35,744	50	323	240	2.2	1,838	16.6
Bavaria	48,547	67	371	384	2.9	2,597	19.9
Berlin	8,302	59	221	237	6.3	214	5.7
Brandenburg	3,443	3	137	24	1.0	165	6.6
Bremen	1,670	3	245	15	2.2	53	7.8
Hamburg	5,211	7	283	30	1.6	260	14.1
Hesse	10,869	58	173	184	2.9	507	8.1
Mecklenburg-Western Pomerania	803	0	50	7	0.4	20	1.2
Lower Saxony	13,605	28	170	188	2.4	632	7.9
North Rhine-Westphalia	43,436	194	242	1,282	7.1	1,684	9.4
Rhineland-Palatinate	7,036	14	172	88	2.2	235	5.8
Saarland	2,807	1	283	6	0.6	173	17.5
Saxony	5,457	6	134	16	0.4	224	5.5
Saxony-Anhalt	1,876	3	85	14	0.6	59	2.7
Schleswig-Holstein	3,163	4	109	23	0.8	152	5.2
Thuringia	3,259	6	152	18	0.8	181	8.4
Total	195,228	503	235	2,756	3.3	8,994	10.8

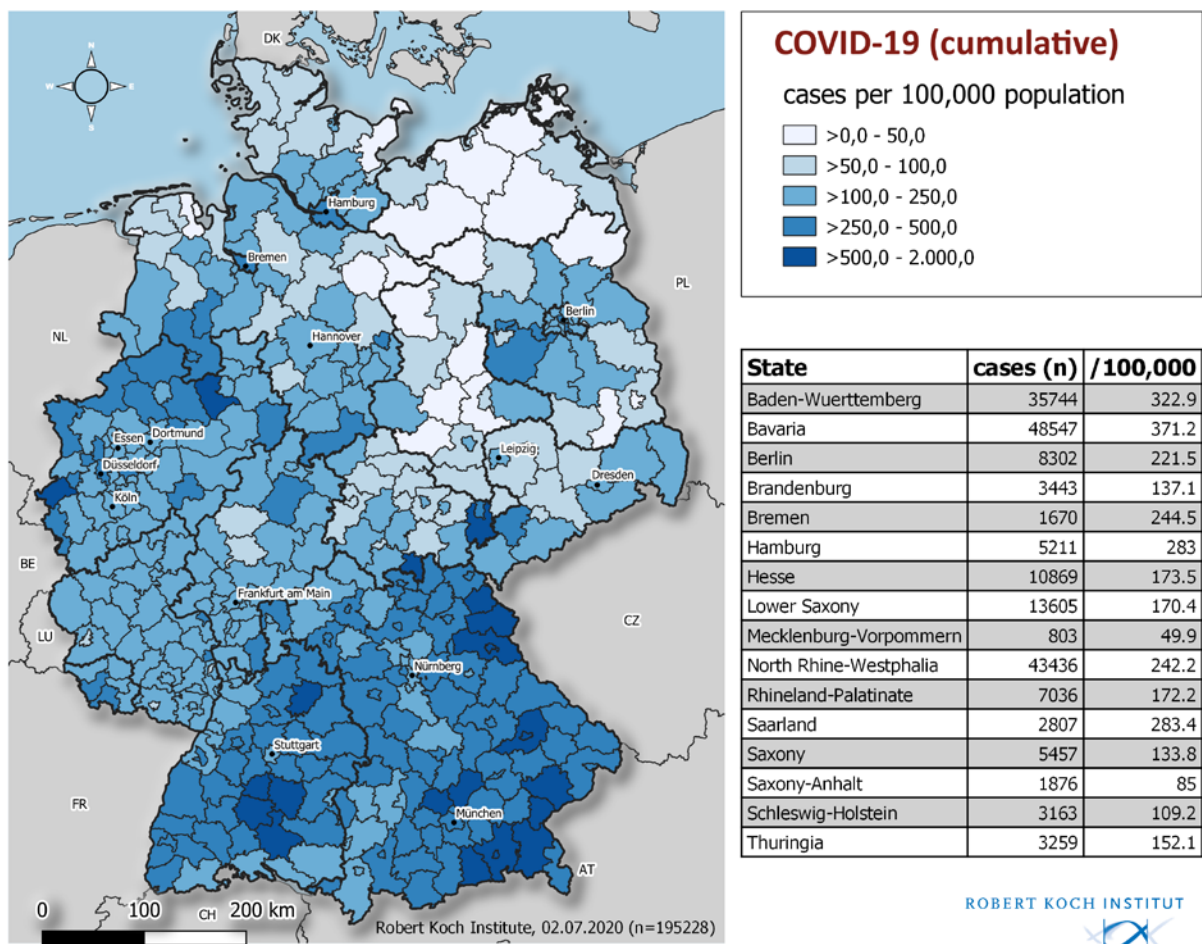


Figure 1: Number and cumulative incidence (per 100,000 population) of the 195,228 electronically reported COVID-19 cases in Germany by county and federal state (02/07/2020, 12:00 AM). Please see the COVID-19 dashboard (<https://corona.rki.de/>) for information on number of COVID-19 cases by county (local 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. Of these cases, the onset of symptoms is unknown in 58,261 cases (30%), thus their date of reporting is provided in Figure 2.

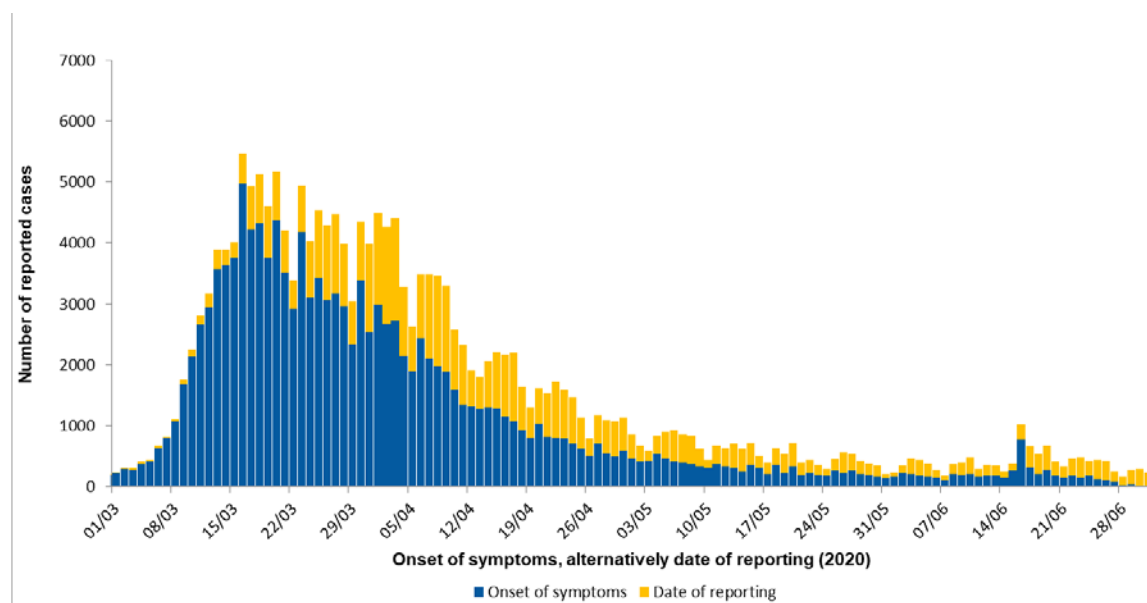


Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or –if unknown– alternatively by date of reporting from 01/03/2020 (02/07/2020, 12:00 AM).

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, 4,877 were children under 10 years of age (2.5%), 9,432 children and teenagers aged 10 to 19 years (4.8%), 85,664 persons aged 20 to 49 years (44%), 59,276 persons aged 50 to 69 years (30%), 30,215 persons aged 70 to 89 years (16%) and 5,357 persons aged 90 years and older (2.7%). The age and/or gender is unknown in 407 notified cases. The mean age of cases is 48 years (median age 49 years). The highest incidences are seen in persons aged 90 years and older (Figure 3).

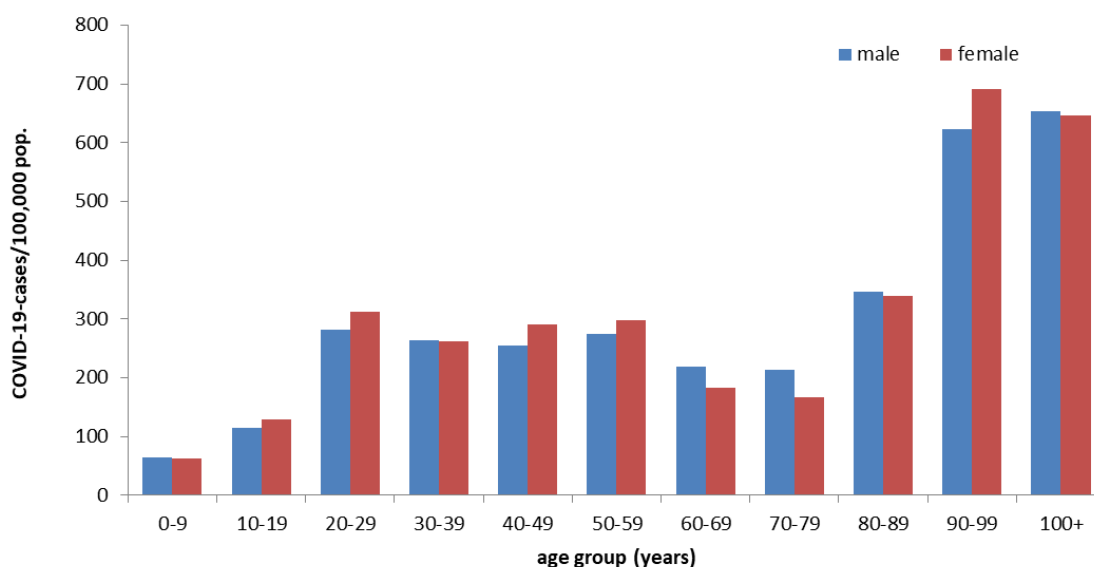


Figure 3: Electronically reported COVID-19 cases/100,000 population in Germany by age group and gender (n=194,815) for cases with information available (02/07/2020, 12:00 AM).

Clinical aspects

Information on symptoms is available for 166,858 (86%) of the notified cases. Common symptoms are cough (48%), fever (41%) and rhinorrhoea (21%). Pneumonia was reported in 5,056 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 3,456 of 23,565 cases (15%).

Hospitalisation was reported for 29,332 (17%) of 170,000 COVID-19 cases with information on hospitalisation status.

Approximately 180,300 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 8,989 of notified deaths; 02/07/2020, 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	7	17	51	233	631	1,363	2,100	562	6
Female	1		3	6	21	84	226	663	1,894	1,075	44
Total	1	2	10	23	72	317	857	2,026	3,994	1,637	50

In total, 8,994 COVID-19-related deaths have been reported in Germany (4.6% of all confirmed cases). Of these, 4,972 (55%) are men and 4,017 (45%) are women (see Table 2), the gender was unknown in five cases). The median age was 82 years. Of all deaths, 7,710 (86%) were in people aged 70 years or older, but only 18% 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 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 (194,110* cases, no data available for 48,797 cases; 02/07/2020, 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	3,382	2,423	624	2,600
	Occupation in facility	13,882	636	20	13,700
§ 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*	3,266	72	1	2,900
	Occupation in facility	2,733	142	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	17,972	4,077	3,557	14,100
	Occupation in facility	9,933	420	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	4,447	192	6	3,600
Neither cared for, accommodated in nor working in a facility		89,698	15,871	3,425	84,300

*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, **13,882** 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 (Section 42 IfSG) 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 [two](#) districts, the district of Guetersloh and the [city of Duisburg \(both North Rhine-Westphalia\)](#) .

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 affected plant was temporarily closed at short notice and all employees are in quarantine together with their household members. In addition, all schools and day-care centres in the district of Guetersloh were closed on 18/06/2020 until the end of the summer holidays (11/08/2020), in the neighboring district of Warendorf since 25/06/2020. On 23/06/2020, the state of North Rhine-Westphalia officially implemented the second stage of a lockdown for the districts of Guetersloh and Warendorf until 30/06/2020. Widespread testing for SARS-CoV-2 has been implemented in the affected region. Nursing facilities, hospitals, employees in the food retail sector, kiosk staff and residents of central shared accommodations are being tested in Gütersloh and Warendorf. Any resident can have a test performed free of charge.

Currently, two further outbreaks in other meat processing plants are ongoing in the district of Wesel in North Rhine-Westphalia and the district of Oldenburg in Lower Saxony. Both plants were temporarily closed.

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 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.

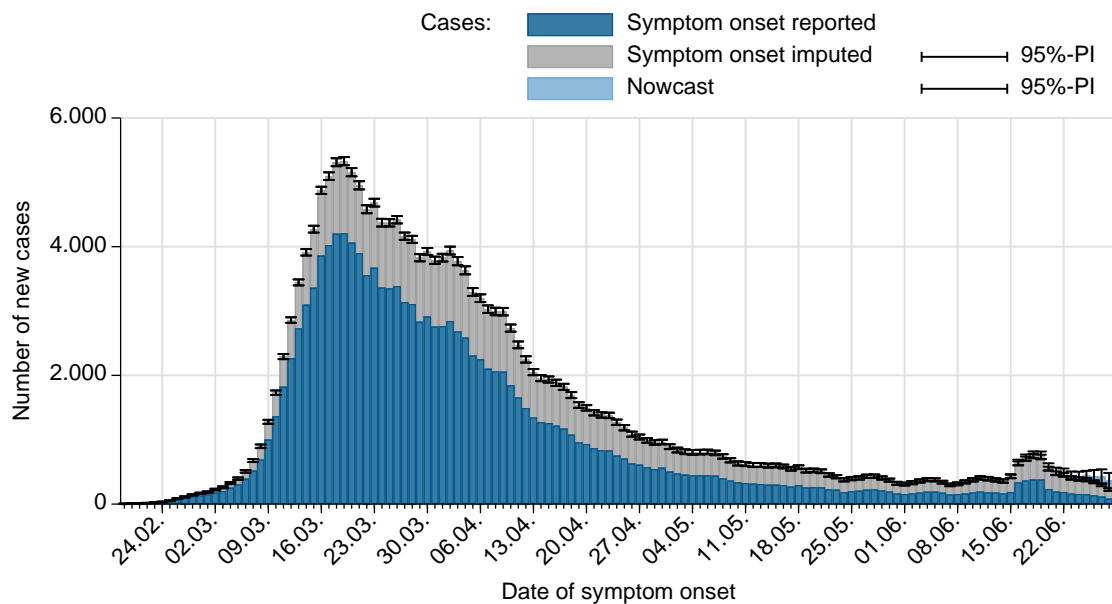


Figure 4: Number of notified COVID-19 cases with known date of illness onset (dark blue), estimated date of illness onset for cases without reported date of onset (grey) and estimated number of not yet notified cases according to illness onset electronically reported to RKI (light blue) (as of 02/07/2020, 12 AM, taking into account cases up to 28/06/2020).

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 **0.83** (95%-prediction interval: **0.67 – 1.02**) and is based on electronically notified cases as of 02/07/2020, 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 **0.83** (95% prediction interval: **0.74 – 0.91**) and is based on electronically notified cases as of 02/07/2020, 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)

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 02/07/2020, a total of 1,276 hospitals or departments reported to the DIVI registry. Overall, 32,643 intensive care beds were registered, of which 21,530 (66%) are occupied, and 11,113 beds (34%) 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 (02/07/2020 12:15 AM).

	Number of patients	Percentage	Change to previous day*
Currently in ICU	327		-2
- of these: mechanically ventilated	160	49%	-10
Discharged from ICU	14,824		+37
- of these: deaths	3,744	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.

Data on emergency department utilisation

In collaboration with the National Emergency Department Register AKTIN (<https://www.aktin.org/en/>), the RKI analysed emergency department utilisation and prepared a weekly situation report: <https://www.rki.de/EN/Content/Institute/DepartmentsUnits/InfDiseaseEpidem/Div32/sumo/sumo.html>

As of 28-06-2020, data from 10 emergency departments have been taken into account. Between 01/11/2019 and 01/03/2020, an average of 6,608 emergency department admissions per week was recorded. From the middle to the end of March 2020, a 40% decrease in the number of admissions was observed, to 3,969 admissions in week 13, 2020. Similar declines were evident in comparable surveillance systems in the USA, England and Wales. In parallel to the decrease in daily admissions, public measures were taken to contain the COVID-19 pandemic in Germany. Subsequently, an increase in admissions has been observed. In week 26, 2020, 6,230 admissions were recorded. This means that the number of admissions is currently still 6% below the average of November 2019 to February 2020 (see Figure 5).

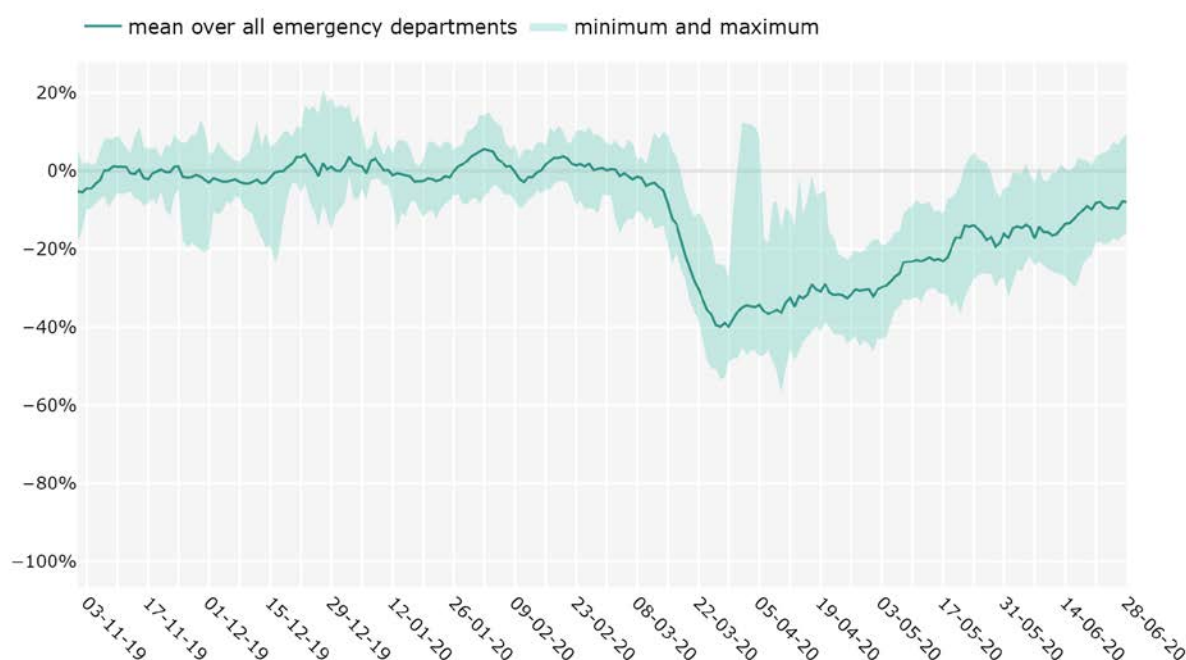


Figure 5: Number of emergency department attendances in Germany, from November 2019 to June 2020; 7-day moving average of 10 departments; relative deviation to reference period 01-11-2019 – 01-03-2020 (as of 28-06-2020)

Information from additional RKI based surveillance systems for acute respiratory illnesses

GrippeWeb (“FluWeb”) is a web interface at RKI for monitoring the activity of acute respiratory illness (ARI), utilizing information from the population. In week 26, 2020, the rate of ARI (“ARI rate”) increased, mainly in the age group 0 to 4 years. Since the end of the influenza epidemic in week 12, 2020, the overall ARI rate has been markedly lower than in previous seasons at this time of the year. Further information can be found under <https://grippeweb.rki.de/>.

The Influenza Working Group (AGI) monitors ARI through a sentinel network of physicians in private practices. In week 26, 2020, the number of patient visits due to acute respiratory infections increased for the age groups 0 to 4 years and 5 to 14 years, but remained at a very low level overall. Within the viral surveillance of the AGI, rhinovirus was detected in 11 of 34 samples (32%) in week 25, 2020. Since week 15, 2020, no influenza activity has been observed within the viral surveillance of the AGI and no SARS-COV-2 has been detected since week 16, 2020. Further information can be found under <https://influenza.rki.de/>.

A third, ICD-10 code based system, monitors severe acute respiratory illness (SARI) in hospitalized patients (ICD-10 codes J09 to J22: primary diagnoses influenza, pneumonia or other acute infections of the lower respiratory tract). In week 25, 2020, the total number of SARI cases decreased and remains at a very low level. Of all reported SARI cases in week 25, 2020, 4% were diagnosed with COVID-19 (ICD-10 code U07.1!) (See Figure 6). Please note that due to data availability only patients with an ICD-10 Code for SARI as the main diagnosis and hospitalisation duration of up to one week were included in this analysis.

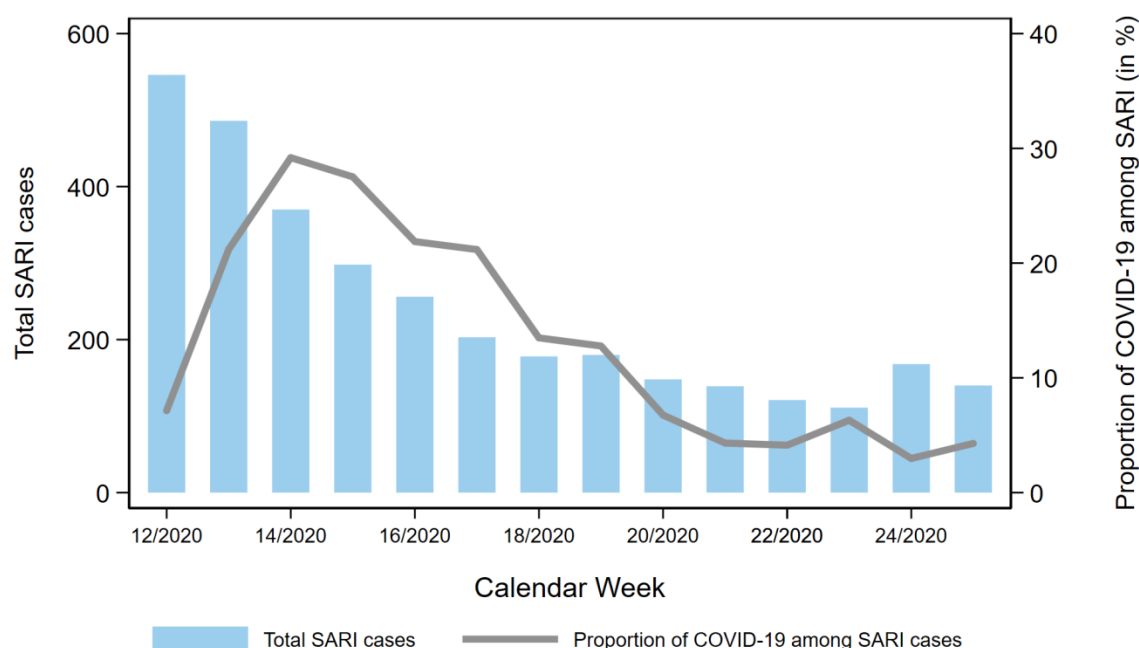


Figure 6: Weekly number of SARI cases (ICD-10 codes J09-J22) and proportion of cases with a diagnosis of COVID-19 (ICD-10 code U07.1!) among SARI cases with duration of hospitalisation of up to one week and with date of admission in weeks 12 to 25, 2020, from 70 sentinel hospitals

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. 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 (01.07.2020)
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)
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Orientierungshilfe_Buerger.html
- *(in English, French and German)*
- 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-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248> *(in German)*